DOCUMENT RESUME

ED 088 475 IR 000 308

AUTHOR	Smith, Barry D.; Cooper, Mildred P.
TITLE	Instructional Television Program. An Evaluation.
INSTITUTION	District of Columbia Public Schools, Washington, D.C. Model School Div.
SPONS AGENCY	Eugene and Agnes E. Meyer Foundation, Washington, D.C.; Office of Education (DHEW), Washington, D.C.
PUB DATE	74
NOTE	102p.
EDRS PRICE	MF-$0.75 HC-$5.40
DESCRIPTORS	*Communication (Thought Transfer); Demonstration Programs; Educational Innovation; Elementary Grades; *Inservice Teacher Education; *Instructional Improvement; Instructional Innovation; *Instructional Television; Interschool Communication; Microteaching; Motivation; Program Evaluation; *School Community Relationship; Secondary Grades
IDENTIFIERS	*Instructional Television Program; ITV

ABSTRACT

An evaluation of the Instructional Television (ITV) Program was conducted to measure the success of the project. The program was designed to upgrade teacher competencies and student learning by using ITV: 1) as a tool for classroom instruction and teacher inservice training; 2) as a means of extending the curriculum and motivating students; 3) to develop communications within schools and between communities and schools; and 4) as an avenue to other educational innovations. Questionnaires, interviews with educators involved in the project, and evaluations made by outside consultants all indicated that the project was successful. Teacher workshops, using ITV and microteaching techniques, upgraded teacher skills; in addition, curriculum and instructional programs were enriched, school-community relations were improved, and school personnel developed positive attitudes toward ITV. Problems were encountered in the area of ITV to improve teacher-administrator communication. It was recommended that the program be extended on a trial basis for up to two years, at which time a decision on long-term continuation will be made. (Author/PB)

ED 088475

The District of Columbia Schools

Instructional Television Program

MODEL SCHOOLS

An Evaluation

Office of Planning, Research, and Evaluation

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IR 000 308

INSTRUCTIONAL TELEVISION PROGRAM

PROGRAM SUMMARY

Title: Instructional Television Program

Groups Served: Teachers, administrators, and students in the Model Schools Division of the District of Columbia Public Schools

Program Office Location: Bruce-Monroe School

Model School Division Funds Currently Allocated: $10000

Program Rationale:

The ITV Program is intended, most basically, to upgrade the competencies of teachers and enhance learning in the students they teach. This is to be accomplished, in part, through direct in-service training of teachers, involving the application of a micro-teaching approach and other methods. More generally, the program is expected to introduce into classroom teaching a flexible system of audio-visual communication which can be employed in a variety of ways to enhance the educational process.

Program Objectives:

Major Program objectives most recently stated include: (a) Effective use of ITV as a working tool in the classroom by teachers and others trained through in-service programs; (b) The use of ITV to expand the current curriculum and motivate pupils to learn; (c) To develop and maintain a video tape library for use in the school; (d) To develop the use of ITV as a communication system, increasing communications among schools and between schools and the community; and (e) To develop further use of and new directions for ITV in the Model Schools and other public schools.

Major Uses of ITV:

The implementation of program objectives has been approached through a number of specific uses of ITV facilities and personnel. Some of the major ones include: (a) Increasing teacher competencies through micro-teaching; (b) Curriculum service expansion; (c) Improved communication in disadvantaged children; (d) Community education; (e) Providing a flexible basis for use of educational television programming in the schools; (f) Administrative communication; and (g) Tape library development and utilization.

Program Methodologies:

The program functions through its director, his volunteer assistants, and media coordinators in the individual schools. The principal methods employed by the program are its various workshops. The equipment skills or operations workshop trains teachers, students and others in the basic operation of the ITV equipment. The micro-teaching workshop introduces teachers to the concept of micro-teaching and its employment by the individual teacher to increase her competencies. It outlines nine basic teaching skills and the methods by which these skills can be taught through micro-teaching employing ITV facilities. The reinforcement workshop serves to retrain teachers initially trained at an earlier time and allows them to sharpen their skills and resolve questions. Project personnel are also involved in other activities, including the operation of communications laboratories in some schools and the implementation of TV distribution systems in some schools.

Program Funding History:

The ITV Program initially received, in 1969, grant funds in the amounts of $22000 from the Meyer Foundation, $20000 from Title I, and $500 from the Conley Foundation. Congress appropriated funds in 1970 in the amount of $26000 for the continuation of the program. No new funds were allocated during 1971 or 1972. The program is currently funded by a grant of $10000 from the Meyer Foundation, of which $900 may be used for supplies, the remainder being allocated for personnel.

Evaluation Methodology:

The evaluation was intended to provide basic factual information concerning the ITV Program, as well as evaluative information concerning the effectiveness with which the program functions or can potentially function. Seven principal assessment approaches were employed: (a) Overall evaluation through the Instructional Television Questionnaire; (b) Detailed evaluation of the micro-teaching approach through the Micro-Teaching Questionnaire; (c) Assessment of school administrator perspectives through the Administrator Evaluation Form; (d) Participant evaluation of equipment skills workshops through the ITV and Micro-Teaching Workshop Inventory; (e) Consultant evaluation of workshops through the Consultant Observation Inventory; (f) Assessment of program-relevant information and opinions of certain central administrative personnel through semi-structured interviews; and (g) A structured request for a program demonstration video tape. Overall, the evaluation emphasized the micro-teaching aspect of the program, as was originally requested; however, the evaluation also covered a number of other aspects of program functioning and program potential.

Results of Evaluation

The major strengths and potential strengths of the program, as determined by the present evaluation, include: (a) Certain aspects of the approach to teacher evaluation and teaching improvement; (b) Shared enrichment programs and related uses; (c) Program workshops, which were found to be of high quality; (d) Potential for enhancement of school-community relationships; and (e) The support which the program has developed among teachers, administrators, and some central administrative personnel. Areas involving possible problems include: (a) Adequacy of ITV facilities utilization; (b) Program funding; (c) Program visibility within the school system; (d) Convenience of using and opportunity for use of ITV facilities; and (e) The involvement of ITV in the enhancement of teacher-administrator communication.

Recommendations:

A total of forty-three recommendations, growing out of the evaluation, are offered in the concluding section of the present report. As to program continuation and expansion, it is recommended that the program be continued, for the present time, and that funding be increased and stabilized to permit relatively long-term planning and expanded functioning. However, the program should undergo an additional trial period of one and one-half to two years, during which various recommendations can be implemented and problem areas dealt with. At the end of this trial period, and following further systematic evaluation, a decision should be made as to the expansion and permanence of this program.

INSTRUCTIONAL TELEVISION PROGRAM

ABSTRACT

Title: Instructional Television Program

Background and Purpose of the Program:

The project was initiated following a 1968 grant proposal written by Mr. J. Welden Greene and subsequently funded by the Meyer and Conley Foundations and by Title I funds. The basic purpose of the program is to upgrade the competencies of teachers and thereby enhance the education of students. In addition, the program aims to accomplish a number of other specific objectives, including curriculum service expansion, the development of a video tape library, and the development of ITV as a communication system within the schools.

Program objectives have been pursued primarily through the structuring and implementation of a series of workshops. One major type of workshop trains teachers, students and others in the operation of ITV equipment. A second workshop implements the principal emphasis of the program, the micro-teaching concept. Teachers are taught, in this workshop, the nature of nine basic teaching skills and the approach to using micro-teaching to increase the level of skills in the individual teacher. A third workshop is the reinforcement workshop, which retrains teachers and sharpens their skills. The program has also been involved in the use of ITV for student-developed programming, the employment of ITV in the classroom for recording and playback of student performances, the implementation of TV distribution systems in some schools, and other activities.

Director: Donald L. Monroe

Program Office Location: Bruce-Monroe School

Dates Encompassed by Report: (Primarily) September, 1973-January, 1974.

Groups Served: Teachers, administrators and students in the Model Schools Division

Staff: The program director and two volunteer assistants. Media coordinators (not salaried under the ITV program) facilitate program functions in the individual schools.

Current Funding: $10000 from the Meyer Foundation

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INTRODUCTION

The purpose of the present report is to provide an integration of factual and evaluative information concerning the Instructional Television Program currently operating in the Model School Division of the District of Columbia Public Schools. More specifically, the report begins by detailing and integrating factual information concerning the history, objectives and methodologies of the Instructional Television (ITV) Program. This factual summary provides an essential background against which evaluative information can be appropriately interpreted. The remainder of the report presents an evaluation of the project conducted during the months of September, 1973 through January, 1974.

Current ITV Program Objectives

The objectives of the ITV Program have been stated and restated in various proposals and reports as well as in semi-structured interviews conducted by the present consultant. Those stated here are taken from the most recent reports and interviews and constitute current objectives which much be supplemented by earlier-stated objectives presented elsewhere in the present report. The five basic, current objectives are:

1) Effective use of ITV as a working tool in the classroom by teachers and others trained through in-service programs.

2) The use of ITV to expand the current curriculum and motivate pupils to learn.

3) To develop and maintain a video tape library for use in the school system.

4) To develop the use of ITV as a communications system, increasing communications among schools and between schools and the community.

5) To develop further use of and new directions for ITV in the Model Schools and other public schools.

To avoid any possible misinterpretations of these objectives as represented in the above summary, they are here quoted directly from the report on "Phase III" of video-taping and micro-teaching workshops, authored by G. A. Diggs, D. L. Monroe, and D. Walker. The objectives as stated in their report are:

1) As an ITV group trained (through in-service programs), teachers and other school personnel will be effective in the using of ITV as a working tool in the classroom.

2) To use ITV in order to motivate pupils to learn and to expand the present curriculum.

3) To build, maintain and add to a library of video tapes in order that these materials will be current, available and relevant to pupil needs.

4) When appropriate use of ITV as a communications system through closed TV circuit in all D. C. public schools; between schools and extend the lines of communication between the school and the community.

5) To develop, promote and consult with other schools for future directions of ITV in the Model Schools and other public schools.

Current and Recent ITV Program Functions

The functions served by the ITV program can be described and categorized in various ways, depending upon the viewpoint of the observer. What follows is thus an attempt to summarize these functions from one particular point of view as the functions have emerged from a variety of observations, interviews and written documents. While the program can be seen as serving a number of additional purposes, there are, essentially, six major functions:

1) Conduct of micro-teaching workshops, in which teachers in the various schools of the Model Schools Division learn to use micro-teaching as a tool to improve teaching skills. Experienced teachers learn to serve as master teachers, using the television medium, and inexperienced teachers learn the micro-teaching approach to classroom teaching.

2) Overall coordination and supervision of a micro-teaching program in the Model Schools Division.

3) Development and ongoing conduct of equipment skills workshops for teachers, counselors and other school personnel, where the use of ITV equipment is taught.

4) Conduct of similar equipment skills laboratories for students, who also learn the operation of the ITV equipment.

5) Development and operation of communication skills laboratories in three schools.

6) Instruction in and coordination of the use of ITV for a variety of purposes in addition to micro-teaching. Examples would be the use of ITV for the individual student to observe and correct his own errors, taping of field trips for presentation to other classes, and taping of counseling sessions with groups.

The Evaluation: Purpose and Methodology

The present evaluation has necessarily been conducted during the period from September 1, 1973 through January, 1974. Without specific reference to the technical details of the evaluation, the procedures conducted during that time period and reported here had three basic purposes. First, the evaluation aimed at bringing together a variety of factual information and providing a vehicle for maximizing the availability and dissemination of that information. Secondly, the evaluation was conducted in order to provide a careful, formal basis for making constructive suggestions concerning the possible improvement of the ITV Program in the District of Columbia Schools. And, finally, the evaluation provides a partial basis for administrative judgments and decisions concerning the continued funding and possible extension of the use of Instructional Television in the District.

The specific evaluation methods are described only very briefly and in summary form here. Details concerning the development of evaluation instruments and procedures are given below in conjunction with the reporting of relevant data.

Instructional Television Questionnaire. The ITV questionnaire was developed specifically for this evaluation and consists of a number of items designed to assess expert opinion on the current and possible uses of ITV in the D. C. School system. Teachers, master teachers, ITV coordinators and others responded to this opinion survey form. This particular aspect of the evaluation thus provides a broad base of expert opinion on a variety of ITV uses in the D. C. school system.

Micro-Teaching Questionnaire. Also developed specifically for this evaluation, the micro-teaching questionnaire was used to assess the utility of skills developed through micro-teaching and the effectiveness of micro-teaching in a variety of subject matter areas. The major groups participating in this aspect of the overall evaluation were master teachers, who had used or attempted to use micro-teaching in the training of inexperienced teachers, and less experienced teachers, who had had some training through or other exposure to the ITV-based micro-teaching program.

Administrator Evaluation Form. Constructed specifically for completion by principals and assistant principals, this assessment instrument permitted a formal evaluation of the use of ITV by administrative personnel. In addition, it provided the administrative viewpoint concerning the utility and effectiveness of ITV in its various functions within the school system.

ITV and Micro-Teaching Workshop Inventory. A major focus of the ITV Project, as indicated in the summary of program functions above, has been the conduct of workshops to train teachers in the use of ITV equipment and in micro-teaching. The workshop questionnaire was administered to teachers participating in current workshops in an effort to determine the quality and effectiveness of workshop presentations. Since the program did not offer equipment skills workshops until late November and did not have micro-teaching workshops until January, relatively few workshops and teachers are covered by this particular aspect of the evaluation.

Consultant Observation Inventory. This inventory represents a formal method by which the present consultant and others were able to record their own observations concerning the ITV workshops. Again, the representation of workshops is small, since they were not offered and could not therefore be observed earlier in the year. The value of the Consultant Observation Inventory is that it provides formal observation by individuals not directly associated with the ITV program and not receiving the services delivered by that program.

Interview Data. Formal or semi-formal interviews were conducted by the present consultant with a number of administrative personnel in the central school administration during the months of November and December, 1973, and January, 1974. Those interviewed were administrative personnel who, according to available information, have been directly or indirectly connected with the ITV project and who have had opportunities to observe the effectiveness of this project and the performance of project personnel. The interviews attempted to assess: (a) the visibility of the ITV Program within the school system; (b) attitudes of administrative personnel toward the program; (c) the effectiveness of ITV in promoting communication between the individual schools and the central administration; and (d) the suggestions which administrative personnel might have concerning the improvement of the ITV program.

Demonstration Tape. As a formal part of the overall assessment of the ITV Project, the present consultant requested the preparation of a demonstration video tape, showing micro-teaching in progress and demonstrating a number of other uses of Instructional Television as it is currently employed in the School System. The demonstration tape was requested for two principal reasons. First, it makes available information about the ITV program which simply cannot be fully or adequately communicated through a written medium, such as a report. While many evaluation reports might profit from having films or video tapes of project functions available, the demonstration tape is particularly appropriate, if not in fact essential, for an assessment of this particular project, which relies almost totally on the television medium for communication. The second reason for requesting the tape was to permit those reading the present report to make a partial and independent evaluation of at least some aspects of the ITV program.

A BRIEF HISTORY OF THE ITV PROGRAM

It is particularly essential to evaluate the ITV project in the context of its historical background. Given this background, the reasons for particular program foci and for specific evaluation methodologies become clear. In addition, knowledge of the program's history provides an essential perspective from which to view the results of the evaluation.

The Original Proposal

The initial proposal for an instructional television program in the District of Columbia Public Schools was presented to the Superintendent of Schools in July, 1968 by Mr. J. Weldon Greene. The proposal reviews the use of ITV in other school systems and recommends its funding and implementation in the D. C. Schools. Specifically, a three-phase program is outlined. During Phase I, seven schools were to be equipped with closed-circuit TV distribution systems and television production equipment. The focus in this early phase was to be on the video tape sharing of programs and classes across schools, with parents, teachers, administrators, counselors and librarians participating actively in planning and implementation. Phase II was to add the remaining schools in the Model Schools Division and to provide for in-service training of participating personnel. Work in conjunction with WETA, Channel 26, was also to be undertaken. Phase III was to link the school system with Instructional Television Fixed Service (ITFS) to provide for ongoing sharing of programs, communications, cultural enrichment and other activities across schools. The proposal suggests that ITV be used for a variety of purposes within the schools, including, but not particularly emphasizing, micro-teaching. This latter aspect of the overall program has become a central emphasis in recent years.

Proposal Implementation

The proposal was funded jointly by the Meyer Foundation and the school system, and Phase I was begun during the 1969-70 school year. Following a loss of funding during part of 1970 and 1971, Mr. Donald Monroe became program director in November, 1971, and reoriented the ITV program around the micro-teaching concept. The program began to operate more fully during 1972, but funding difficulties late in that year led to cutbacks, causing the program to lose some of its momentum. Personnel funding for the program currently allows payment only of the program director. The director currently has two volunteer assistants, and the librarians in the Model Schools serve as media specialists and ITV program coordinators for individual schools. A historical account of the earliest phases of ITV program implementation is provided in a report by F. Bivins and D. L. Monroe, The Utilization of Television in Education. Five major activities are listed by Bivins and Monroe as follows:

1) A series of meetings were held with Model School Division personnel to discuss basic responsibilities, goals, operating conditions, and budget.

2) Meetings and workshops concerned with specific instruction in how to assemble and operate the television equipment. In some sessions the direct discovery method was utilized. Specific problems in the assembling and operating of equipment were dealt with on an individual and group basis.

3) Meetings and workshops to evaluate the progress and make plans for future developments.

4) The formation of teams to get practice in in-school situations involving video taping of plays, special school events, counseling services and micro-teaching.

5) A second series of workshops " losed Circuit Television Utilization" was held to concentrate on three general area:

    1. Historical Background and Philosophy

    2. Technical Aspects

    3. Utilization Practices

The major uses to which ITV is currently being put are indicated in the same report of March 31, 1973. While this list will be supplemented later in the report, it is still a largely complete indication of the major activities undertaken as a result of the ITV program. Quoting from the report, six items are indicated:

1) Reading specialists along with the Instructional Television Coordinator have developed reading programs that work very well with television. The program is called, "Read On!" Each child has a chance to write and read his/her story on television. The smiling faces are sent to ten other classrooms in the building. Each student has a chance to evaluate his/her own self and experiences. These are students who are lacking in some skills in reading and most of all, finding it hard to read in the classroom. They are finding it fascinating to be able to see and hear themselves read and speak on television.

2) Closed circuit television is also being used for counseling sessions. The program is called "Talk Show". Students having a problem adjusting in the classroom are being counseled on closed circuit television. Here they meet in large group counseling sessions to talk to each other in efforts to solve their own problems. Small group sessions are used in this program too.

These students also have an opportunity to see themselves as someone else sees them. Some questions most frequently asked in the program are as follows: Who am I? How do I look? How do I act? What am I going to do? etc.

3) Closed circuit television is used in some aspects of special education in the Model School Division. This program is called "Give a Helping Hand". Students in this program have an opportunity to speak into the camera and see their lips move. In this program, students have learned to say their names, addresses and telephone numbers in front of the camera. They are proud to be able to see themselves on television. They are really coming out of their little shells.

4) Closed circuit television is used with tutoring classes. Larger and older students are tutoring first, second, and third graders in reading and math. Students tape, playback for feedback, and evaluate their experiences.

5) Closed circuit television is being used in broad-casting. Student Council members broad-cast school news, school rules, weather forecast, and the school menu each morning on the system.

6) Special performances and plays are also transmitted to other classrooms by the television system.

Historical Rationale for the Program

The original proposal suggests several major reasons for recommending the use of instructional television in the D. C. Public Schools. First, it was apparent then and now that many large-city school systems have been using the educational television medium for a number of years. In fact, of 16 major cities surveyed by The Research Council of the Great Cities Program for School Improvement, Washington, D.C. remains the only one not expending substantial funds for ITV in the school system. Research was also sighted to indicate that ITV is an effective medium for education, as indicated in a substantial number of studies and in earlier survey research indicating considerable interest among principals and teachers within the Model Schools Division of the D. C. School system.

OBJECTIVES, JUSTIFICATION AND FUNCTIONS

The most recent statement of ITV program objectives has already been noted above. However, as was indicated there, these objectives must be supplemented by those stated earlier in the development of the program and still clearly in force as major program goals. In addition, the historical context is again a valuable perspective from which to view the overall progress of the program. The original 1968 proposal contained 6 major program objectives:

1) To complement basic teaching through direct teaching programs geared in content and pace to current curricula

2) to individualize instruction by providing additional ITV viewing for pupils needing more than a single exposure to a given lesson

3) to enrich instructional programs through the use of WETA-Channel 26 educational TV offerings

4) to stimulate pupils to design, produce and critique their own programs

5) to provide continuing in-service training of administrators and teachers in many curricular areas

6) to provide a medium for the sharing of programs, resources and classes throughout the school system and between school and community.

The implementation of the ITV program brought about some changes in objectives and, as would be expected, a greater degree of specificity of some objectives. The overall purpose of the ITV program as it entered Phase II is indicated in a report relevant to that phase as follows: "The program will be designed to upgrade the competencies of professional personnel for Micro-teaching in the Model Schools. It will provide an opportunity for those who need to improve on skills in the individual classrooms. It enables the teacher to evaluate himself as well as students that he/she will be teaching." These specific objectives of the program, as indicated at the Phase II point in its development and reinforced in recent interviews, focus primarily on the teacher and through the teacher on the administrator and student. As specified in the Phase II proposal, specific objectives of the program are to provide opportunities for the teacher to:

1) review pertinent educational philosophies, learning theories, and curriculum developments as related to video-taping and recording;

2) review pertinent communications research findings which are applicable to the classroom utilization of micro-teaching;

3) observe demonstrations and have practice with techniques of producing and preserving selected video-tape performances;

4) develop skills in the operation and care of television equipment;

5) develop skills in the use of techniques for reproducing illustrations;

6) observe demonstrations of effective video-taped lessons and have practice with the techniques of producing video-taped television presentations;

7) observe and practice the use of camera and recorder in special classroom situations;

8) observe and tape the operations and use a modern language laboratory and of a modern reading skill centers;

9) develop abilities to locate, evaluate, and select video-tapes effectively for use in the classroom;

10) increase abilities to work effectively with other teachers and with school administrators in efforts to improve instruction.

To provide a complete understanding of ITV program objectives and to put current objectives into the appropriate historical context, we indicate here again the Phase III objectives, quoted from the Phase III project proposal. As indicated there the objectives are:

1) As an ITV group trained (through in-service programs), teachers and other school personnel will be effective in the using of ITV as a working tool in the classroom.

2) To use ITV in order to motivate pupils to learn and to expand the present curriculum.

3) To build, maintain and add to a library of video tapes in order that these materials will be current, available and relevant to pupil needs.

4) When appropriate use of ITV as a communications system through closed TV circuit in all D.C. public schools; between schools and extend the lines of communication between the school and the community.

5) To develop, promote and consult with other schools for future directions of ITV in the model Schools and other public schools.

Uses of and Justifications for ITV

The original, 1968, proposal justifies the use of ITV in the District of Columbia largely on the basis of its fairly widespread utilization in other major school systems and by citing the specific reasons noted above. More recent reports and interviews have indicated a shift in emphasis, such that the program is now said to be justified on the basis of specific uses to which it has been or can be put in the D. C. School system. Each point of justification is thus based on one of two broad concepts. The program

is said to either: (a) provide educational innovations or services not otherwise provided within the school system; or (b) expand, supplement or enhance current curricula, administrative undertakings, or services. To be more specific, recent interviews and reports suggest seven major points of justification--and hence seven major uses--for the ITV program:

1) Teacher Competencies. The micro-teaching aspect of the ITV program is seen as enhancing the competencies of teachers, particularly those with relatively little experience. Expansion of the micro-teaching components throughout the school would be seen as actually enhancing the quality of education at all levels and in a variety of curricular areas.

2) Curriculum Service Expansion. ITV can be used, it is held, to bring curricular specialists into the individual classroom on a much more widespread basis than is currently possible.

3) Improved Communication in Disadvantaged Children. It is suggested that disadvantaged children can gain experience in producing and using ITV programs, and that this experience will enhance the ability of these children to communicate their ideas to others.

4) Community Education. The program can be expanded to include special classes for adults during evening hours with the television medium being used as the main method of presenting materials in these evening classes.

5) Educational TV. The closed circuit systems of ITV can provide a flexible basis for the use of educational television programs taped from WETA and other ETV sources. The teacher can use these taped programs at appropriate times and hence enhance classroom learning.

6) Administrative Communication. ITV can be used as a tool to improve communications between administrators and teaching personnel, thus enhancing the educational process.

7) Library Development and Utilization. A video tape library can be developed to bring various programs and curricular experts to every classroom. In addition, library programs can be used to interpret the school programs to parents and others at PTA meetings and in other settings.

Major Program Methodologies

The various objectives of the ITV program are implemented principally through the presentation of workshops and the operation of communication skills laboratories. The program typically offers three basic types of workshops, one in equipment skills and video taping techniques, a second in micro-teaching and a third which involves the reinforcement of skills learned in earlier sessions. A common pattern is to offer the first two types of workshop in the same school on the same day. The equipment skills laboratory is offered in a morning session to a small group of teachers, with the micro-teaching workshop following for the same teachers during the afternoon session. What follows here is a brief description of the

content of these workshops, with reference to appendices containing further details and workshop curricular materials.

The Equipment Skills Workshop. This workshop is presented to teachers, students, counselors, administrators and others to teach them in a "hands on" practicum setting the basic operation of video recording equipment. They learn the setup of equipment and preparation for taping, the use of the camera and recorder, and the use of television graphics.

Without going into details, a typical presentation of the equipment skills workshop would include the following areas of presentation:

1) Orientation

2) A statement of the basic purpose and objectives of the workshop

3) Review of a detailed glossary containing a total of approximately 60 terms relevant to instructional television

4) A detailed presentation on equipment operation

   a) camera setup, operation and cautions

   b) video tape recorder setup, operation and cautions

5) Graphics

   a) preparation of graphic material

   b) size and clarify

   c) aspect ratio

   d) scanning an essential area

   e) layout

6) "Hands on" use of equipment and studio and title cards

A sample equipment skills workshop agenda and relevant curricular materials are contained in Appendix A.

The Micro-teaching Workshop. The basic purpose of micro-teaching is generally seen as that of providing an opportunity for carefully supervised teaching preparation or teaching skill enhancement without endangering the learning of pupils in the process. Basically, a teacher-trainee engaging in a micro-teaching lesson focuses on a specific aspect of teaching skill and works to master that aspect before proceeding to another skill. His performance is video taped, and he receives a critique of the performance by a master teacher, then tries again until he successfully masters the skill in question. He then moves on to another skill. While there is

disagreement in the educational literature concerning the most basic and important skills involved in teaching, application of the micro-teaching concept typically -- and specifically in the ITV program in the District of Columbia -- focuses on nine basic technical skills. Each of these skills represents a quite specific aspect of teaching behavior, although there is some overlap among and mutual interdependency of the various skills involved. The teacher who has mastered all nine skills should be a "good teacher." Since the nine typical skills are those utilized in the D. C. ITV program and are focused upon in the micro-teaching workshops, they are noted here briefly:

1) Establishing set. This involves the establishment of cognitive rapport with and involvement of pupils in the lesson being taught.

2) Establishing appropriate frames of reference. Here the teacher learns to teach lesson material from several appropriate points of view or frames of reference, rather than a single point of view.

3) Achieving closure. This involves integrating the major elements of a lesson and linking them with the pupils' past knowledge.

4) Using questions effectively. Here, the teacher develops an ability to ask provocative, useful, answerable questions and thus to enhance learning.

5) Recognizing and obtaining attending behavior. Basically, the teacher learns to become more sensitive to classroom behavior and particularly to note indications of interest or boredom and deal with these.

6) Control of participation. In this case, the teacher learns to use various techniques for encouraging or discouraging classroom interaction.

7) Providing feedback. The teacher here learns to become sensitive to cues providing knowledge of his own teaching results during the course of a lesson.

8) Employing reward and punishment (reinforcement). The teacher learns to apply some of the principles of reinforcement developed in the psychological laboratory to a classroom situation in order to enhance the learning process.

9) Setting a model. Here, a teacher-model provides an example of very specific technical teaching skills. The inexperienced teacher learns through micro-teaching, to analyze and imitate such teaching models in order to rapidly acquire new teaching skills.

The micro-teaching workshop, as offered in the ITV program, aims not to teach these nine skills during the course of a workshop but to demonstrate to teachers just how the micro-teaching process is to be carried out and what the basic skills are that should be learned. More specifically, the micro-teaching workshop has four basic instructional objectives. The workshop participant should, following completion of the workshop, be able to:

1) Describe the sequence for micro-teaching

2) Describe what is meant by technical skills in teaching and list examples of six of these skills which are used in micro-teaching

3) Identify learning theories which support the concept of micro-teaching

4) Identify the most effective supervisory behavior using TV in micro-teaching.

Reinforcement Workshops. This workshop is basically a refresher course in which teachers and others who have previously learned the technical skills involved in the use of video taping equipment can practice and relearn these skills and have answered questions which may have arisen in attempting to apply the skills originally learned.

The Communication Skills Laboratory.

Communication laboratories have been established in several schools, including Bundy, Meyer, Tubman and Bruce-Monroe under the Media Educational Program. The laboratories contain a variety of resource materials, primarily for the development of reading and language arts skills. Examples of materials include controlled readers, films, reference kits, tape recorders, projectors, and reading skill builders. Teachers are scheduled to use the laboratories on a rotational basis. Both teachers and students learn to use the various equipment and, rotate from one station to another within the laboratory during a class period. The workshops in video taping and micro-teaching have been offered in these laboratories.

PARTICIPANT EVALUATION: MULTIPLE USES OF ITV

Both in the D. C. school system and elsewhere instructional television has been used for a wide variety of purposes, ranging from student-developed newscasts to the application of micro-teaching in the training of inexperienced teachers. The central purpose of this first aspect of the overall evaluation of the Instructional Television Program was to assess the impact of ITV as seen by a large and varied group of experts who have followed and participated in the progress of ITV in the D. C. school system. Because of the large numbers of individuals involved and the desire for as much objectivity as possible, a specially-developed questionnaire was distributed to teachers and others in the school system, and the respondents

served as the basic group providing data for this aspect of the evaluation. The nature and development of the questionnaire are described below, and the results of the evaluation based on this instrument follow.

The Basis for Assessment

The assessment examined perceived value of instructional television in relation to a number of different possible applications through a questionnaire survey of a large number of individuals involved with the use of ITV. Groups examined included teachers in the Model Schools Division who had been either centrally or peripherally involved in the use of ITV in there own individual schools, master teachers, who served as Micro-teaching evaluators in the schools, ITV Coordinators in the various model schools and ITV Supervisors from the Model Schools Division Office. Taken as a group or series of subgroups, those included in the survey constitute a substantial number of individuals expertly qualified to evaluate the effectiveness of closed circuit television in a school system.

The purpose of this aspect of the evaluation was to determine the consensus of such expert opinion specifically in regard to various possible uses of ITV in the D. C. School system.

Questionnaire Development

A questionnaire was developed specifically for the overall assessment of ITV effectiveness and utilization as reflected in the perceptions of the teacher-based group. The full questionnaire appears in Appendix B. Relevant subgroups of items are outlined in Tables 1 through 8. The total questionnaire consists of 33 items, each assessing one specific use of ITV, and each involving a 7-point Likert rating scale. The scale for each item was labeled at its extremes, such that a low score of 1 represented extreme ineffectiveness of ITV in that particular area of endeavor, while a high score of 7 represented extreme effectiveness. Respondents were instructed to check that point on the scale at or between the two extremes which best represented their particular perception of the effectiveness of ITV in relation to the particular item.

Subgroups of items were designed specifically to assess six major areas of ITV effectiveness. In addition, single-item assessments in several other areas were carried out. The first major assessment area was that of direct student education. The assessment concern here was with the effectiveness of instructional television in relation to various specific aspects of the direct education of pupils. Respondents were asked to assess separately the effectiveness of ITV in relation to both motivation and learning in both the average pupil and the slow learner. Respondents were also asked to indicate the effectiveness of ITV in reinforcing learning by repeating, for some students, video-taped classroom exercises, in the assessment of educational growth patterns in individual pupils, and in the individual evaluation and feedback of pupil performance. The second concern was with the development, evaluation and improvement of teacher performance. While this aspect of the overall assessment is

covered in more detail in connection with the direct evaluation of Micro-teaching below, two items were included in the ITV Inventory, one dealing with the effectiveness of ITV as an aid to self-evaluation of the teacher, the other concerning the overall effectiveness of ITV in aiding the evaluation and guidance of relatively inexperienced teachers by master teachers or Micro-teaching supervisors. The third assessment area dealt with communication. More specifically, respondents were asked to assess the value of ITV in improving communications between and among various groups and institutions. How effective is ITV in improving communication between administrators and teachers? Between parents and the school system? Between and among schools? Between the individual school or the total school system and the community of which it is a part? As a communication medium, ITV should provide a basis for school system-wide improvement of education through improvement of educationally relevant forms and areas of communication. It was for this reason that an attempt was made to assess communication effectiveness in specific areas.

The fourth area is program development by students. Basically, this aspect of the evaluation deals with those activities involving ITV and not restricted to a single classroom. Such uses as the taping of field trips for showing to other classes and the development of student news broadcast programs would be examples. The basic question here is whether the student's education is enhanced by encouraging his self-involvement in the actual use of ITV equipment and training. A fifth area of assessment is that of school-wide impact. The concern here is whether the ITV program has accomplished the purpose of permitting the sharing of education across classrooms and schools. Has it, for example, provided a substantial basis for curriculum expansion. Is a tape library being effectively developed, and is it useful to a substantial number of teachers across classes and schools? An additional concern, the use of ITV in counseling and guidance settings, provided the basis for the sixth area of assessment. In particular, ITV has been used in recording and playing back group counseling sessions and in taping some kinds of special situations for student guidance. The effectiveness of such applications as these was the point of this evaluation area.

Single-item assessments were conducted in several additional areas, including the effectiveness of ITV in potentially providing adult education programs for parents and other members of the community and the extent to which ITV can provide a better education by allowing taping and closed-circuit distribution of programs from educational television. It has been argued, for example, that taping of educational TV programs permits the teacher to use these programs whenever they would best fit into her lesson structure, rather than forcing her to use the programs as they occur. The flexibility thus introduced into the use of educational TV by the availability of closed-circuit equipment should be a point in favor of the ITV program if experts feel that ITV utilization in this form is effective. Additional questions concern the use of ITV as a record-keeping device, as in the taping of meetings for later review, and the video taping of lesson plans, instructions, and recent lessons to enhance the day-to-day preparation of substitute teachers. Finally, the inventory goes to the questions of the convenience of using ITV equipment, the adequacy of

opportunities to use the ITV equipment, and the teachers' overall assessment of the educational value of instructional television.

Results: Statistical Treatment and Presentation Format

It will be recalled that each item in the evaluation inventory involves responses on a 7-point scale (cf. Appendix B). For purposes of discussion, the seven points may be defined as follows:

1. extremely ineffective
2. very ineffective
3. quite ineffective
4. neither particularly effective nor particularly ineffective
5. quite effective
6. very effective
7. extremely effective

Each respondent indicated, for each item, the degree of effectiveness or ineffectiveness of the ITV program in relation to that item by checking the appropriate point on the scale. The group data were analyzed to determine the mean (average) scale point checked by respondents on each item. As a measure of dispersion, the standard deviation for each item was also calculated. Both means and standard deviations for each item are presented in the tables which follow, and the interpretation of results is based on these means. Each table also contains an overall mean, which represents the evaluated effectiveness of the ITV program in relation to the particular area defined in that table. It should be noted that the overall mean cannot be obtained simply by calculating the mean of the several means comprising a given table. The reason for this is that sample size varies somewhat from one item to another (i.e., some individuals do not answer all items). As a result, each of the item means must be appropriately weighted for sample size in the calculation of the overall mean. In addition to means and standard deviations, each table provides a brief statement of the item content. The exact item as it appeared in the questionnaire itself may be found in the appropriate inventory in the appendix.

Results: Analysis of Substantive Areas

The first broad question asked in the inventory concerns the effectiveness of the ITV program in the area of direct student education. The items involved in this assessment, together with their means and standard deviations, appear in Table 1. The overall mean of 5.60 for the direct education items indicates that, overall, ITV is seen as being quite effective to very effective in this area. However, there is some variation in the particular ways in which the program is effective in direct student education. It is most effective in motivating regular pupils to learn

TABLE 1

DIRECT STUDENT EDUCATION

Item #	Item	Mean	S.D.
1	Tapes as basis for charting growth patterns	5.14	1.64
2	Motivating pupils to learn	5.96	1.18
3	Motivating slow learners	5.87	1.09
4	Increasing actual learning in ordinary pupils	5.35	1.26
5	Increasing learning in slow learners	5.43	1.21
6	Increasing learning through student reading own story on TV	5.51	1.15
7	Video taped repetitions of lessons to reinforce learning	5.86	1.17
12	Pupil evaluation and feedback	5.65	1.40

Overall Mean: 5.60

(a mean of 5.96) and in motivating slow learners (a mean of 5.87), as well as through the use of video tapes to repeat classroom exercises for some students (5.86). The ITV approach was seen as least effective in this area in permitting the teacher to chart growth patterns using student tapes (5.14), though even here the effectiveness is rated fairly high. In areas falling between the two extremes, it was found that ITV has substantial effect in helping the teacher to evaluate and feed back evaluative information to the pupil, and in increasing learning through allowing students to read their own stories on TV. Also falling between the extremes was the use of ITV to increase actual learning in ordinary and slow students. Overall, respondents clearly felt that ITV is a useful tool in the area of direct student education.

Improvement of Teaching Performance. The second evaluation area was concerned with the development, evaluation and improvement of performance by the classroom teacher. While this area is covered in considerably more detail in the evaluation of the micro-teaching aspect of the ITV program, it was also included here, since the use of ITV in teaching performance evaluation does not require or necessarily presume its use in conjunction with a micro-teaching approach. The means and standard deviations for this area of evaluation are provided in Table 2. Respondents clearly felt that ITV is a very effective device for aiding in the improvement of teaching performance. It is useful both for self-evaluation by a teacher (a mean of 6.32) and in aiding the evaluation and guidance of relatively inexperienced teachers by master teachers (6.03). The analysis of micro-teaching to follow will make it clear that the use of ITV in relation to teaching performance evaluation is seen as considerably more effective in some areas than in others.

Improvement of Communications. Table 3 contains items relevant to communication. It has been argued that as a communication medium, instructional television should provide a significant basis for increased communication within the school system and between the schools and the community, somewhat as ordinary, open-circuit television is a powerful medium of general communication. First, it has been argued, ITV should serve to increase communication between administrators and teachers. This might occur in a variety of ways. For example, the administrator may make use of videotaped teacher performance samples to evaluate teachers or to observe a particular teacher innovation in progress. Or the administrator may himself use a closed-circuit TV distribution system for communication within his school, rather than relying on older methods. The rating for improvement of communication was somewhat lower than many of the other ratings, reaching a mean of 4.89. The suggestion is that ITV is seen as reasonably effective in improving administrator - teacher communication, but not the powerful vehicle that might be hoped for. The program is seen as somewhat more effective in potentially increasing communication between schools (5.20) and as a considerably more powerful medium for increasing communication to parents (5.66) and, more generally, between the schools and the community at large (5.73).

TABLE 2

DEVELOPMENT EVALUATION AND IMPROVEMENT OF TEACHER PERFORMANCE

Item #	Item	Mean	S.D.
10	Self-evaluation of taped teacher performance	6.32	1.14
11	Use of video tapes in micro-teaching program	6.03	1.32
	Overall Mean: 6.18		

TABLE 3

COMMUNICATION

Item #	Item	Mean	S.D.
13	Improving communication between administrators and teachers	4.89	1.65
14	Communicating to parents performance and skills development to parents of children	5.66	1.34
15	Communication between schools	5.20	1.67
16	Communication between school and community	5.73	1.47
	Overall Mean: 5.37		

Student-Based Program Development. Still another way to potentially use ITV in enhancing the educational process is through the direct use of this medium by students. Four possible uses were investigated in the present assessment, and there was a range of mean responses from a low of 5.15, indicating that ITV is somewhat effective in serving as a basis for using older students as tutors for younger students, to a high of 6.13, indicating that ITV is very effective in allowing pupils to develop shared enrichment programs. The employment of closed circuit distribution systems to make possible student broadcasts of news, school rules, menus and other information and to permit the sharing of video taped class trips with other classes were also seen as quite effective uses of the television medium. Means for these activities were 5.63 and 5.96, respectively. A summary of means and standard deviations for these items appears in Table 4.

School-Wide Impact. It has long been considered that the major advantage which television has over either audio tapes or silent films is that it flexibly presents material simultaneously to both major modalities-audition and vision. It comes closer than any other medium to presenting the viewer-listener with the same sensory experiences that he would have observing a "live" presentation. It is this flexible, audio visual capability which is essentially seen as the major advantage of instructional television in its potential school-wide impact. Table 5 summarizes several items eliciting responses concerning this impact. In this assessment, ITV was seen as very effective in permitting the sharing of instruction across classrooms and schools through the use of closed circuit distribution systems and video tapes (6.04). It is also very effective in that it can provide a library of tapes on various subject matter for use by teachers throughout the school system (6.25) and in providing a means of recording for later use a variety of cultural activities both within and outside the school system for use in classes (6.18). Finally, ITV is seen as somewhat less effective but still of substantial use in providing a basis for the expansion of the school curriculum (5.45). The overall mean response for these items is 5.98.

Counseling and Guidance. There has been considerably less emphasis on the use of ITV in connection with guidance and counseling than some other areas. This reduced emphasis may have been reflected in the relatively low mean rating of 5.10 as seen in Table 6 for the use of closed circuit counseling sessions for students who have classroom adjustment problems. There is, however, a somewhat higher mean rating for the use of ITV in providing tapes of special situations which may be used in guiding students.

Additional Concerns. Table 7 does not contain an overall mean, as it is a collection of several rather miscellaneous items which nevertheless reflect some major uses of instructional television. The use of ITV as a means of providing adult education programs for community members is given a rating of quite effective (5.45). The use of ITV within the school system to provide a flexible basis for making use of educational TV programs receives a higher rating of very effective (6.04). Two less emphasized but potentially important uses--employing ITV to record meetings and other activities (5.30) and to video tape information for preparation of substitute teachers (5.27)--receive lower ratings, but still fall in the "quite effective" category.

TABLE 4

STUDENT-BASED PROGRAM DEVELOPMENT

Item #	Item	Mean	S.D.
18	Use of older students as tutors	5.15	1.51
19	Student broadcasts of school news and information	5.63	1.36
20	Student taping of class trips for other classes	5.96	1.25
21	Student development and sharing of enrichment programs	6.13	1.06
22	Overall effectiveness of student use of equipment	5.55	1.53

Overall Mean: 5.69

TABLE 5

SCHOOL-WIDE IMPACT

Item #	Item	Mean	S.D.
8	Video taped sharing of instruction across classes and schools	6.04	1.31
23	ITV as basis for expansion of curriculum	5.45	1.41
24	Use of library of ITV tapes available to all teachers	6.23	0.99
25	Recording of cultural activities for later use	6.18	1.08

Overall Mean: 5.98

TABLE 6

COUNSELING AND GUIDANCE

Item #	Item	Mean	S.D.
9	Video tape utilization in group counseling	5.10	1.15
28	Guidance through video tapes of special situations	5.71	1.17
	Overall Mean: 5.41		

TABLE 7

EDUCATIONAL TV AND ADDITIONAL CONCERNS

Item #	Item	Mean	S.D.
17	ITV for adult education programs	5.45	1.38
22	Taping and use of educational TV (e.g., Channel 26)	6.04	0.96
26	Use of ITV as a record-keeping device for meetings, etc.	5.30	1.57
27	Use of video taped lesson plans, etc. for substitute teacher preparation	5.27	1.61
	Overall Mean: 5.52		

TABLE 8

CONVENIENCE AND OPPORTUNITY

Item #	Item	Mean	S.D.
30	Physical convenience of ITV set up	4.89	1.43
31	Adequacy of opportunity to use ITV	4.50	1.97
	Overall Mean: 5.20		

Convenience and Availability. Despite its potential for being substantially effective as an educational technique in a variety of areas, ITV would be of relatively little value if either its use were very inconvenient or there were inadequate opportunities for teachers and others to make use of ITV facilities. Thus, practically speaking, the items in Table 8 are of some importance. Interestingly enough, it is in the area of convenience and opportunity that ITV receives its lowest ratings in the present assessment. Raters provided only a slightly positive rating (4.89) in describing the convenience of using ITV equipment. Since the equipment does, as the demonstration tape clearly shows, potentially involve the user in some considerable set-up and take-down effort, it is not surprising that the rating would be somewhat lower than that of other items. That the rating is even slightly positive or neutral quite possibly attests to the feasibility of widespread use of ITV in the school system, since it means that those who have used the equipment do not find it particularly inconvenient in any major respect. Adequacy of opportunity for use of the ITV equipment receives an even lower, though slightly positive, rating of 4.50. This particular point will be explored in more detail later in the report. However, we have here the first indication that there may well not be an optimally adequate opportunity for trained personell to make use of the ITV facilities.

Overall Effectiveness of ITV. Individuals with experienced expertise in a field such as elementary or secondary education need not be entirely restricted to very specific responses concerning particular uses of an educational technique. They can provide broader generalizations of opinion which can be a valuable guideline to the perceived need for or value of the technique in question. The final item in the present questionnaire asks for such as overall evaluation of instructional television in the D. C. school system. It provides the rater with an opportunity to integrate his knowledge of the value of the technique, in this case instructional television. The mean rating arrived at by the rating group examined here was a very high 6.23, suggesting that, overall, ITV is seen as very effective to extremely effective in enhancing the educational process.

PARTICIPANT EVALUATION: MICRO-TEACHING

As indicated earlier, a major recent focus of the ITV program has been the micro-teaching approach. Through the micro-teaching workshops, approximately 120 teachers--6 in each of the Model Schools--have been exposed to and basically trained in micro-teaching. The micro-teaching workshops are evaluated, insofar as this was possible, in a later section of the report. A thrust of the assessment reported here was to conduct a broad-based evaluation of micro-teaching in the D. C. schools by determining the expert judgment of qualified participants in the process.

Questionnaire Development. A separate inventory was developed specifically to assess micro-teaching as it has been approached by the ITV program. It was considered that in addition to the workshops themselves there are four major concerns relating to the impact of the micro-teaching approach. The first concern was with the development of the micro-teaching skills described above. Experts were asked to judge whether or not micro-teaching, as they have experienced it, is effective in developing and maximizing each of the nine teaching skills outlined above. If these skills are, indeed, paramount to teaching, then micro-teaching should be educationally effective to the extent that it is capable of furthering the development of these teaching skills. A second area of concern was the specificity of the micro-teaching approach as to level of education and subject matter area. Is micro-teaching effective at the elementary level, and if so in what particular subject areas is it most and least effective? Information gained here should give some insights and information to the individual teacher who may later use micro-teaching in relation to the particular subjects in which it can most effectively be employed. The third area of concern dealt simply with subject matter areas at the secondary level, again attempting to determine any differentiation which might exist among these areas. Fourth, the evaluation was concerned with the pupil, rather than teacher, level of education. That is, an attempt was made to determine the value of micro-teaching and actually enhancing student learning at each level of education.

Results of the Evaluation.

Results of micro-teaching are reported in the same format as those for the more general ITV evaluation above. Specifically, means and standard deviations appear in the appropriate tables, and overall means are, again, weighted for sample size. Each of the four areas noted above is covered separately to include a report of relevant data and a brief interpretive discussion of results.

Micro-Teaching Skills. Perusal of Table 9 suggests that mean scores for eight of the nine teaching skills fall in the range between quite effective and very effective on the 7-point rating scale. The highest-rated effectiveness of micro-teaching is in the area of "using questions effectively" (a mean of 5.83), "providing feedback" (5.73), and "achieving closure" (5.71). The remaining areas, with one exception, are rated somewhat lower, but not substantially so. The one area in which micro-teaching is, relatively speaking, down-rated is the area of "employing rewards and punishments." Micro-teaching is given a mean score of only 4.95 to indicate its effectiveness in developing this particular teaching skill. Even the 4.95 rating is reasonably high, very closely approaching the quite effective category of the scale. It is possible, however, that a modification of the micro-teaching approach or its use in conjunction with another approach would provide a firmer basis for developing the particular teaching skill involved in effective employment of reinforcement.

TABLE 9

MICRO-TEACHING SKILL DEVELOPMENT

Item #	Item	Mean	S.D.
1	Effectiveness of M-T in learning to establish set	5.44	1.32
2	In learning to establish appropriate frames of reference	5.29	1.50
3	In learning to achieve closure	5.71	1.23
4	In learning to use questions effectively	5.83	1.20
5	In learning to recognize and obtain attending behavior	5.66	1.28
6	In learning to control participation	5.39	1.30
7	In learning to provide feedback	5.73	1.45
8	In learning to employ rewards and reinforcements	4.95	1.21
9	In learning to analyze and imitate models	5.58	1.28

Overall Mean: 5.51

TABLE 10

MICRO-TEACHING IN ELEMENTARY SUBJECT AREAS

Item #	Item	Mean	S.D.
10	Arithmetic	5.59	1.12
11	Reading	5.64	1.06
12	Science	5.61	1.05
13	Social Studies	5.51	1.04
14	Spelling	5.26	1.14
15	Writing	5.06	1.28

Overall Mean: 5.45

Micro-teaching at the Elementary Level. Table 10 provides data relevant to the question of differential subject-matter effectiveness of micro-teaching at the elementary level. The subject area in which micro-teaching receives the highest rating is reading (5.64). However, science and arithmetic received nearly identical mean ratings, and social studies is only slightly lower. Participants did judge, however, that micro-teaching is somewhat less effective in preparing the teacher to teach spelling (5.26) and still less effective in writing (5.06). Even given the differentiations that do appear, the real differences are quite small, and all scores fall within the range between quite effective and very effective on the 7-point scale.

Micro-teaching at the Secondary Level. A comparison of Table 1 makes it apparent that there is no appreciable difference in the perceived overall relative effectiveness of micro-teaching at the elementary and secondary levels. Moreover, the item means relevant to the secondary level are not so differentiated, ranging only from 5.63 to 5.67. Clearly, micro-teaching was seen by participants as equally effective in providing teacher training in the areas of science, mathematics, English and social studies.

The Enhancement of Learning. The data contained in Table 12 provide a quite revealing understanding of expert judgment concerning the impact of micro-teaching in actually increasing student learning. The first three items deal specifically with the enhancement of learning at, respectively, the elementary, junior high, and senior high levels. Participant responses suggest that micro-teaching effectiveness falls between the quite effective and very effective scale categories, and there is no differentiation in the enhancement of learning as a function of educational level. In fact, means range only from 5.41 to 5.44, with elementary and senior high school means being identical. The last two items in the table are more general and provide a somewhat different response. When participants are asked whether pupils learn more rapidly under teachers trained in micro-teaching, they indicate that learning is only slightly more rapid, if at all. When asked whether pupils learned better in the sense of absorbing or retaining more information, participants respond with a mean scale score of 5.03, suggesting that pupils may learn quite a bit better under micro-teachers. However, the mean for this item is still lower than that for the first three items dealing with the three educational levels. Overall results of the analysis of pupil learning suggests, then, that micro-teaching does tend to enhance learning. However, it is not clear just what form the enhancement of learning is likely to take.

Overall, micro-teaching receives a substantially positive evaluation, with most participant rating means falling in the range between quite effective and very effective on the rating scales. There is, in fact, no area in which micro-teaching falls below the mid-point of the rating scale (i.e., toward the ineffective end of the scale), and it is thus apparently seen, in general, as more effective than teaching not developed through a micro-teaching program.

TABLE 11

MICRO-TEACHING IN SECONDARY SUBJECT MATTER AREAS

Item #	Item	Mean	S.D.
16	English	5.67	1.08
17	Mathematics	5.63	1.02
18	Science	5.63	1.02
19	Social Studies	5.65	1.06

Overall Mean: 5.65

TABLE 12

MICRO-TEACHING IN RELATION TO PUPIL LEARNING

Item #	Item	Mean	S.D.
20	Overall effectiveness of M-T in enhancing elementary level learning	5.41	1.36
21	Overall effectiveness of M-T in enhancing junior high school level learning	5.44	1.15
22	Overall effectiveness of M-T in enhancing senior high school level learning	5.41	1.33
23	Rate of learning in pupils under teachers trained with M-T	4.69	1.40
24	Quality of learning in pupils under teachers trained through M-T	5.03	1.22

Overall Mean: 5.15

PARTICIPANT EVALUATION: MASTER TEACHERS IN MICRO-TEACHING

In the analysis reported above, respondents were essentially the total group of teachers involved in the micro-teaching program or directly familiar with its employment and impacts. A somewhat different--in fact unique--perspective on the micro-teaching approach derives from the experience with that approach of master teachers. These teachers are highly experienced, well trained individuals who have served as micro-teaching supervisors or evaluators in the program. It is they who have been most directly involved in using micro-teaching techniques to train less experienced teachers. Not only do these master teachers have a unique perspective from which to evaluate the micro-teaching program, but they are also, through their greater experience, able to compare the skills of the teacher trained in micro-teaching with those of teachers not so trained. It was for these reasons that a set of specially designed items were given to these teachers.

Questionnaire Development and Description

The items developed specifically for master teachers appear in Appendix C. They cover five major areas of concern which, it was felt, needed to be dealt with from the particular viewpoint of the master teacher. The five areas covered were: (a) the effectiveness of micro-teaching in improving both teaching and learning; (b) the nature of self-perceptions of teachers being trained through the use of micro-teaching techniques; (c) the degree to which ITV facilities are adequately used; (d) the perceived desirability of continuing and/or expanding the ITV program in the D. C. school system; and (e) the master teachers' overall evaluation of both ITV and micro-teaching in the District of Columbia.

As with the evaluations reported above, several specific items were written to tap each of these areas, and all master teachers were asked to respond to each item.

Results of the Master Teacher Evaluation

As in the other inventories, all items involve 7-point rating scales, and the tables appearing in the following sections summarize data relevant to each of the several areas of concern involved in the master teacher evaluation of micro-teaching.

Improvement of Teaching and Learning. From the unique perspective of an experienced expert in the teaching profession, a master teacher has the opportunity to make three major observations which are particularly relevant to an evaluation of the micro-teaching approach: (a) she can observe any change in the performance of teachers who are trained in micro-teaching, since she observes the teacher both before and after training has been undertaken; (b) a master teacher can make implicit and explicit comparisons, through her long-term observations, between teachers who have received training in micro-teaching techniques and equally experienced teachers who have not received such training; and (c) she can observe, comparatively, the

actual learning which takes place in individual students and groups of students taught by micro-teachers and those taught by teachers without this training.

In the present evaluation, the master teacher was asked to provide ratings based on each of these three observations and, thereby, to make a significant assessment of the value of a micro-teaching program in a major school system. Table 13 provides the relevant means and standard deviations. The overall table mean of 5.06 indicates that master teachers judge the use of micro-teaching to be superior to the absence of such a program. The specific item means suggest that micro-teaching is most effective in increasing the individual teaching skills of the inexperienced teacher (5.55), suggesting that there is a definite increment in teaching skill as a result of exposure to micro-teaching. Micro-teachers are also rated as somewhat superior in teaching skills to those not trained with micro-teaching (5.00). Interestingly enough, master teachers were less convinced about the value of micro-teaching in enhancing learning. Specifically, they provided only a slightly positive (i.e., above-midscale) evaluation when asked to rate the relative superiority or inferiority of student learning under micro-teachers versus non-micro-teachers.

Self-perceptions of Teachers in Training. A training process which is perceived as threatening by the trainee might well be somewhat less effective than one perceived as helpful in enhancing teaching skills. To provide information relevant to this dimension, master teachers were asked to respond to two specific items. The first item asked whether micro-teaching is seen as a threatening experience by inexperienced teachers. In this case, the lower the scale score, the more threatening the process is seen. A midscale rating of 4.0 would indicate emotional neutrality. It would be expected that there would be some degree of perceived threat to the process, since the inexperienced teacher is being evaluated. Master teachers provided a scale mean for this item of 3.36. The score is just slightly below the midpoint of the scale, indicating that micro-teaching is seen as somewhat threatening, though not excessively so. The second relevant item asked the extent to which inexperienced teachers see the micro-teaching approach as helpful to them in enhancing their teaching skills. Here, a higher score indicates that the process is seen as more helpful, a lower score indicates that it is seen as less helpful. Master teachers provided a scale mean of 5.36, suggesting that the slight threat of the micro-teaching training process is probably more than offset by the inexperienced teacher's perception that micro-teaching is helpful to him or her.

Adequacy of ITV Utilization. Again the question arises of the extent to which ITV facilities are being adequately used for micro-teaching and other purposes. The single-item assessment in Table 15 provides one of the lower means seen thus far in the overall evaluation. Master teachers gave a rating of 4.60 in adequacy of use, suggesting that although the facilities are being used at the present time, there is considerable room for improvement in this particular area.

TABLE 13

TEACHER IMPROVEMENT AND STUDENT LEARNING

Item #	Item	Mean	S.D.
25	Increase in individual teaching skills through M-T	5.55	1.21
26	Superiority of teaching in teachers trained through M-T	5.00	1.10
27	Relative learning by students trained by teachers with and without M-T	4.64	1.29
	Overall Mean: 5.06		

TABLE 14

SELF-PERCEPTION OF TEACHERS IN TRAINING

Item #	Item	Mean	S.D.
28	Degree to which M-T is seen by inexperienced teachers as a threat	3.36	1.50
29	Degree to which M-T is seen by inexperienced teachers as helpful to them	5.56	1.04
	Overall Mean: 4.46		

TABLE 15

ADEQUACY OF ITV UTILIZATION

Item #	Item	Mean	S.D.
31	Degree to which teachers use ITV for micro-teaching and other purposes	4.60	2.07
	Overall Mean: 4.60		

Continuation and Expansion of ITV. The assessment of master teacher judgment was broadened somewhat at this point to determine their opinions as to whether instructional television should be continued in use in the D. C. school system and also whether the ITV program, both in relation to micro-teaching and in its other aspects, should be expanded. The mean response is somewhat striking and perhaps quite indicative. The mean item responses in Table 16 are among the highest seen anywhere in the evaluation. Master teachers indicated, essentially, that the ITV program should definitely be continued (a mean of 6.31) and that it should be considerably expanded (6.23). In fact, over sixty percent of those responding to the question of continuation as well as sixty percent of those responding to the question of expansion of the ITV program provided the highest possible rating of 7.00. The interpretation of this finding in relation to findings concerning more specific applications of micro-teaching specifically and ITV more generally would suggest that: (a) the ITV approach, including micro-teaching, is seen as an extremely valuable approach to the enhancement of the educational process; (b) the ITV program as it is currently constituted is quite effective to very effective; however, (c) the current program is not realizing the potential which ITV represents. Some suggestions relating to possible improvements in the ITV program would therefore appear to be in order, and such suggestions do follow in a later section of this report.

Overall Evaluation. Table 17 provides means for two items relating to the overall evaluation of micro-teaching and ITV more generally in the D. C. school system. Master teachers indicated, through their mean item response, that the overall educational value of the micro-teaching approach falls in the range between quite valuable and very valuable. When viewing the overall value of the ITV program including both micro-teaching and its other aspects, the master teacher group provided an even higher rating of 6.00, suggesting, again, that an ITV program is a very desirable element in the process of educational enhancement in the D. C. school system.

ADMINISTRATOR EVALUATION OF INSTRUCTIONAL TELEVISION

The school administrator has, of course, a quite different perspective on such specialized programs as ITV and Micro-teaching than does the classroom teacher or the master teacher. His concern is focused toward the broader educational and administrative advantages of such specialized educational technology, rather than entirely on the impact of the technique within a single classroom. He must also be concerned with any administrative problems which may develop as a result of or in relation to an approach like ITV and is likely to be involved in assuring the smooth and effective functioning of the techniques throughout his school or other administrative domain. It is also, of course, the individual school administrator and his colleagues in the central school administration who will ultimately determine the continuation and expansion of a specialized approach to education.

TABLE 16

CONTINUATION AND EXPANSION OF ITV

Item #	Item	Mean	S.D.
32	Extent to which the ITV program should be continued	6.31	1.03
33	Extent to which the ITV program should be expanded	6.23	1.17

Overall Mean: 6.27

TABLE 17

OVERALL EDUCATION: ITV AND MICRO-TEACHING

Item #	Item	Mean	S.D.
30	Overall educational value of micro-teaching	5.64	1.29
34	Overall educational value of ITV in the D. C. School System	6.00	1.21

Overall Mean: 5.83

For these reasons, it was considered important to determine the value of the ITV approach as it is assessed by appropriate school administrative personnel. Both the principals of schools currently using instructional television and a few members of the central school administration who have been involved in the ITV project were contacted for their evaluations. The assessment of administrator opinions covers four major areas. First, they were asked whether and to what extent teaching in the individual classrooms can be improved through the use of ITV techniques. Secondly, they responded to questions concerning the enrichment of broader educational functions which cut across many classrooms and often cross an entire school. In addition, the administrative group was asked about the use of ITV in regard to the improvement of ongoing school-community relationships. And, finally, the maintainence and improvement of relationships between the individual schools and the central administration was assessed in relationship to ITV utilization.

Questionnaire Development

A specialized instrument was developed to specifically carry out the assessment of administrative opinion. This questionnaire, the ITV Administrator Evaluation Form, (Appendix D), consists, like the other questionnaires used, of a series of items involving 7-point rating scales. The items were constructed specifically to provide assessments relevant to the four major areas outlined above. Items relating to the improvement of teaching took into consideration the use of ITV as a basis for the administrative evaluation of teacher performance, the identification for the administrator of classroom innovations, as well as classroom problems, and the use of ITV as a medium through which the administrator can make suggestions relating to the improvement of teaching performance by individual teachers. The relationship of ITV to broader school programs was specifically assessed through items relating to curriculum expansion and innovation, the improvement of administrator-teacher relationships, and the sharing of taped enrichment programs across multiple classrooms. The school-community relationship area focused specifically on relationships with parents of pupils. One suggested use of ITV is in allowing the parent to see his own child in a classroom setting. The teacher can then point out any specific problems or positive points in the child's performance, and the parent can observe these directly and comment on and react to the teacher's evaluation. Administrators were asked to indicate the extent to which ITV has been or is of value in this regard. Finally, a single item asked administrators to simply evaluate the extent to which ITV has provided a basis for improved communication between the central school administration and the individual school. Since this has been a stated goal and purpose of the ITV program, the question is an important one.

Results of the Administrator Evaluation

The administrator evaluation inventory was completed by a group of principals and assistant principals representing a sampling of schools at all levels in the Model Schools Division. In the section that follows, results are presented, as for previous assessments, in a series of tables accompanied by an interpretive discussion.

Teaching Improvement Evaluation. Table 18 presents means and standard deviations for five items which were related to this aspect of the administrator assessment. The responses on these items represent a considerable range of opinions as to the relative effectiveness of ITV in various specific areas. The administrator group felt that the ITV program is only slightly effective in helping the administrator to identify classroom problems. However, at the opposite extreme the closed circuit TV system provides a good basis for administrators to make suggestions concerning teaching improvement (6.50). ITV is also seen as very effective in providing evidence of teacher-developed innovations (5.92) and quite effective in helping the teacher to identify his or her own classroom problems (5.36) and in providing for the administrator a basis for the evaluation of teacher performance (5.36). The overall mean characterizing all items concerned with teaching improvement was 5.56, falling in the range between quite effective and very effective.

School-wide Concerns. Again in this area, there is a fairly wide variation of opinions, depending upon the particular area of concern. The first item in Table 19 is related to the items in the inventory discussed above which deal with the enhancement of intraschool communication. The specific item used here deals with the improvement of teacher-administrator relationships, which receives a rating of 4.8 , falling in the range of neutral and quite effective. The rating suggests that ITV is less effective in this area than in many other areas examined in the present evaluation. It is, however, more effective in serving as a basis for curriculum expansion (5.93) and it is extremely effective in serving as a basis for the sharing of taped enrichment programs across classrooms and schools (6.73). The table mean of 5.84 suggests a substantially high degree of effectiveness overall in this area.

School-Community Relationships. Although teachers were asked to provide assessments of the effectiveness of ITV in improving parent-teacher and school-community relationships, the administrator brings to this particular question a quite different perspective in his role as the school liaison with the community. Typically, the individual school administrator will be acutely sensitive to those particular aspects of school operation and those particular educational techniques which do provide a basis for improved community relationship. At the same time, the administrator is likely to be very selective in providing positive evaluations of techniques unless he is quite certain that they are in fact useful in the area of school-community relationships. In the present assessment, in the interest of brevity, a single item was used to assess administrator opinion of ITV in the school-community area. The mean response for this item (Table 20) was 6.33, indicating that ITV is very effective in this area.

TABLE 18

ADMINISTRATOR EVALUATION OF TEACHING IMPROVEMENT

Item #	Item content	Mean	S.D.
1	Evaluation of teacher performance	5.36	1.65
2	Making suggestions for teaching improvement	6.50	0.85
3	Evidence of teacher-developed innovations	5.92	1.04
4	Help teacher identify classroom problems	5.36	1.28
5	Help administrator identify classroom problems	4.73	1.39

Overall Mean: 5.56

TABLE 19

ADMINISTRATOR EVALUATION SCHOOL-WIDE CONCERNS

Item #	Item content	Mean	S.D.
7	Improving administrator-teacher relationships	4.87	1.46
8	Basis for curriculum expansion and innovation	5.93	0.88
9	sharing of taped enrichment programs	6.73	0.46

Overall Mean: 5.84

TABLE 20

SCHOOL - COMMUNITY RELATIONSHIPS

Item #	Item	Mean	S.D.
6	Improving school-community relationships	6.33	0.90

TABLE 21

Item #	Item	Mean	S.D.
10	Improving communication between individual school and central administration	5.40	1.80

Communication with Central Administration. The single-item assessment of the effectiveness of ITV in improving school communications between individual schools and the central administration indicates that ITV can be useful in this area, though the utility may not have been fully realized. The rating mean of 5.4 suggests that ITV does have potential for being quite effective in this area.

EQUIPMENT SKILLS WORKSHOPS

Since the presentation of workshops in equipment skills or operations and micro-teaching are such a central part of the ITV program, it was essential to provide some evaluation of these workshops apart from the overall evaluation of the program. The current assessment focused on three concerns: (a) the quality of the workshop itself; (b) the impact of the workshop on participating teachers; and (c) the nature or mode of presentation of the workshop. Quality was assessed through examination of specific aspects of workshop presentation, such as the clarity with which the topics were presented, the ability of the leader to hold the interest of participants, the apparent degree of leader expertise and preparation, and the organization of the workshop. Since the program has presented essentially the same workshops repeatedly, it would be expected that the quality of the presentation would be high. However, this aspect of the evaluation may potentially point to problems identified by participants or consultants which can be solved to provide a more effective rendering of this important aspect of the ITV program.

The impact of ITV workshops was assessed through an examination of both current learning and intended utilization. The question of the "nature" of the workshop was, in fact, a question of the mode of presentation or "atmosphere" which predominates at workshop presentations. Here, participants and consultants were asked to assess the degree of formality of the workshop, the opportunities for personal participation, and the degree of effective interaction of the workshop participants with each other.

Two separate evaluations of the equipment skills workshops were conducted, one based on the perceptions of participants in the workshops, the other based on observations of consultants. The two are reported separately below.

Participant Evaluation: Questionnaire Development

The inventory utilized for participant evaluation of workshops consists of a detailed set of instructions and twenty rating-scale items of the same type used in inventories described above (Appendix E). Items were developed specifically for each of the assessment areas as noted, including quality of workshop presentation, impact, and atmosphere.

The original intention in conducting the evaluation was to ask the participants at workshops throughout the fall semester of the 1973-1974 year to complete the questionnaires following the workshop in which they participated. Unfortunately, no equipment skills workshops were offered until late November. As a result, the sampling of participants is relatively small, but still sufficient to provide at least some evaluative information concerning the workshops. The fact that relatively few participants and relatively few presentations of the workshops could be examined does suggest that further evaluation of this important aspect of the program is now needed.

Participant Evaluation: Results

In the following section, tables of means and standard deviations for individual items in the participant evaluation are supplemented by interpretive discussions to provide evaluations relevant to the three aspects of workshop evaluation noted above.

Workshop Quality. The quality of workshop presentation was assessed through a number of specific items appearing in Table 22. The item means in this table are uniformly high, providing the highest area mean seen thus far in the evaluation. The highest ratings are given for leader preparation (6.50) and for the ability of the workshop leader to hold the interest of participants (6.61). The degree of expertise demonstrated by the leader (6.39) and the overall rated quality of the leader's presentation (6.39) also fell in the very effective to extremely effective range. It is of some interest that the lowest rating was that for the clarity with which the workshop material was presented (6.17). However, even this rating is so high that certainly no question can be raised concerning the quality of these workshops.

Quite clearly, participants in the ITV operations workshops, themselves experienced teachers, are favorably impressed with the way in which the workshop is presented. The one negative comment about the workshops, seen not the questionnaire but in interviews discussed below, is that they are not offered frequently enough, and reinforcement workshops are also too infrequent.

The Learning Experience. Given the high ratings for workshop quality, one would expect the workshop to be viewed as a significant learning experience. Table 23 contains items relevant to this point. In fact, there is some spread of ratings in this table. When rated as a learning experience for experienced teachers, the workshop receives a rating well into the very effective range (6.53). Similarly, participants rated the learning experience as a substantial one for themselves, personally (6.61). When asked specifically about learning relevant to ITV, the ratings changed somewhat. Participants indicated that they were quite familiar with equipment setup and operation (5.33) and reasonably aware of its possible uses (5.22). While these ratings are somewhat lower than the overall learning means, the ratings increase again when teachers are asked how independently they can now use the equipment. Specifically, they provide a mean response of 6.22, indicating that they can now use the equipment quite effectively, but would require advice on a few minor points. For a clear understanding of the specific item relevant to this last point, refer to the questionnaire itself (Appendix E).

It should be noted that the assessment here is of perceived learning immediately after completion of a workshop session and before there has been any real chance for the initial learning to deteriorate. Since the details of motor learning such as that involved in learning the setup of ITV equipment are often forgotten rather quickly, there is a definite need for early and frequent retraining of workshop participants, particularly during the period of a few weeks after the initial training. This means, in terms of the current ITV program, that either there should be frequent presentations of the reinforcement workshops in each of the schools involved or alternative methods of retraining should be sought. Both of these possibilities are considered in the section on Recommendations below.

Utilization of Information. Is the information obtained in the workshop likely to be put to use? In this specific case, is the teacher-participant in the workshop session likely to involve herself in the near future in the use of the ITV facilities?

These questions were answered through two specific items on the Workshop Inventory. In one case, the teacher was asked simply to indicate her level of interest in using ITV. Despite the high ratings for workshop quality and learning, ratings here could have been low if the ITV program has not succeeded in generating substantial interest among teachers. In fact, however, the mean rating of 6.00 indicates a high level of participant interest in personal use of instructional television. To provide an even clearer idea of the likelihood of facility utilization by the participant groups, respondents were asked to indicate the degree or extent to which they specifically intend to use ITV. The rating drops slightly to 5.76, but still indicates a high degree of intention and suggests that the workshop had substantial impact in this regard.

Overall, the impact of the operations workshops, as seen by participants, is strong. The workshop produces, in a fairly short time period, a substantial amount of perceived learning, and, in addition, participants come away from the experience with a high degree of interest in and intention to use ITV.

Participation and Interaction. The information presented here is not specifically evaluative. Rather, it provides an indication of the context in which training is conducted. The means in Table 25 are relevant. First, the "atmosphere" of the workshop session is seen as quite informal. Given this indication, it is not surprising that there is a high degree of participation by individuals (6.28). In fact, the format of the workshop actually requires active participation in "hands-on" work with the equipment. An additional indication of the nature of the workshop comes from the assessment of the degree of interaction of the participants. A substantial amount of interaction is indicated (5.88). Moreover, this interaction is seen as primarily discussion which is highly relevant to the content of the workshop itself.

Overall, then, we have the image of a fairly informal workshop, providing highly effective training.

TABLE 22

EQUIPMENT SKILLS WORKSHOP QUALITY

Item #	Item	Mean	S.D.
1	Clarity of presentation	6.17	1.47
2	Interest held by leader	6.61	0.69
3	Overall quality of leader presentation	6.41	0.71
11	Organization of presentation	6.39	0.78
12	Leader preparation	6.50	0.71
13	Degree of leader's expertise	6.39	0.70
	Overall Mean: 6.41		

TABLE 23

THE WORKSHOP AS A LEARNING EXPERIENCE

Item #	Item	Mean	S.D.
8	As a learning experience for experienced teachers	6.53	0.80
9	As a learning experience for you personally	6.61	0.70
14	Familiarity with ITV setup and operation	5.33	1.53
15	Awareness of possible uses of ITV	5.22	1.86
20	Ability to use ITV equipment	6.22	0.73
	Overall Mean: 5.97		

TABLE 24

UTILIZATION OF WORKSHOP INFORMATION

Item #	Item	Mean	S.D.
17	Interest in using ITV	6.00	1.41
19	Specific intention to use ITV	5.76	1.20

Overall Mean: 5.88

TABLE 25

PARTICIPATION AND INTERACTION

Item #	Item	Mean	S.D.
4	Workshop "atmosphere"	2.50	1.62
5	Degree of personal participation	6.28	0.89
6	Degree of interaction with other participants	5.88	1.36
7	Relevance of interaction to workshop topic	6.11	1.13

Consultant Evaluation: Questionnaire and Procedure

To provide a second perspective on the effectiveness of the operations workshop, consulting evaluators having no involvement with or relationship to the ITV program, other than that of evaluation, observed the workshops. To provide an objective basis for the consultant evaluations, an inventory was developed (Appendix F) to quantify the assessment. Like the inventories discussed above, the consultant observation form consisted principally of a series of 7-point rating scales, each evaluating a specific aspect of workshop presentation, impact, or atmosphere. Many of the items used here are similar to those appearing in the participant workshop inventory, since the same basic observations were being made by both the participants and consultants. However, consultants also responded to additional items not included in the participant inventory.

Since each presentation of the equipment skills workshop is intended to be essentially identical to any other presentation, it was not necessary for consultants to observe on each workshop occasion. However, consultants did observe two different presentations of the equipment skills workshop in order to assure that the one presentation initially seen was not atypical.

The data presented below must be cautiously interpreted with the data source kept carefully in mind. Two points are particularly relevant. (a) The observations reported are those of only two trained observers, rather than of a large group of individuals, as in the case of the participant evaluations; and (b) the perspective represented by the consultants is that of the relatively objective outside observer rather than that of program participants.

Consultant Evaluation: Results

Tables 26-28 provide the data relevant to consultant evaluations.

Workshop Quality. The overall mean of Table 26, 6.06, makes it quite clear that consultants observing the equipment skills workshops saw a very high overall level of presentation. Workshop leaders were seen as expert and well prepared, and participant attitudes were evaluated as highly positive. The high consultant evaluation of quality is consistent with the high quality seen by participants, and requires little further comment. Quite clearly, these workshops have been carefully developed and are expertly presented.

Workshop Impact: Learning. As the data on quality of presentation would suggest, the workshops were seen as a very effective learning experience for participants. Specifically, workshops were seen as a valuable learning experience for experienced teachers (6.50), and participants were seen as very familiar with the setup and operation of ITV upon completing the workshop (6.00). In addition, participants did seem to have considerable familiarity with the uses of ITV and were hence equipped to go back to their classrooms and quite possibly begin use of the ITV facilities (5.50).

TABLE 26

QUALITY OF WORKSHOP PRESENTATION

Item #	Item	Mean
1	Organization of presentation	6.00
2	Clarity of presentation	5.50
3	Preparation of leader	6.50
4	Leaders ability to hold participant interest	6.00
5	Degree of leaders expertise	6.50
6	Overall evaluation of leader's presentation	5.50
7	Attitude of participant group toward leader	6.00
16	Attitude of participants toward workshop as a whole	6.50
	Overall Mean:	6.06

TABLE 27

THE WORKSHOP AS A LEARNING EXPERIENCE

Item #	Item	Mean
17	As a learning experience for experienced teachers	6.50
19	Familiarity of participants with setup and operation of ITV	6.00
20	Participant familiarity with uses of ITV	5.50
	Overall Mean:	6.00

TABLE 28

PARTICIPATION AND INTERACTION

Item #	Item	Mean
8	Encouragement of group participation	7.00
9	Formality of "atmosphere"	6.00
10	Extent to which group participated actively	5.50
11	Proportion of group participating actively	6.00
12	Allows interaction among participants	4.50
13	Relevance of interaction to workshop topic	6.00
14	Workshop atmosphere rated as friendly or hostile	7.00
	Overall Mean:	5.86

Participation and Interaction. As in the participant evaluation of the operations workshops, the assessment of participation and interaction is not specifically evaluative. The information is presented in order to provide some information concerning the structure of the workshops and the "atmosphere" in which they are conducted. Consultants indicated that group participation was very highly encouraged (7.00). The high rating is not surprising, since the structure of the workshop essentially requires participation in the handling of equipment and in actually conducting some video taping. More generally, the atmosphere was rated as quite informal (6.00), and the group was seen as participating very actively (6.00) and interacting among themselves considerably less actively (4.50). The overall table mean of 5.86 indicates, more generally, a high degree of informality and active participation by those present at the workshop.

MICRO-TEACHING WORKSHOPS

A general approach to workshop evaluation was presented above in connection with the equipment skills workshops. As with those workshops, the intention was to evaluate micro-teaching sessions as to quality of presentation, impact, and mode of presentation.

The intention in evaluating micro-teaching workshops was originally to provide both consultant and participant evaluations, as was done with the operations workshops reported above. The same questionnaires (Appendices E and F) were to be employed in these evaluations, and data comparable to that reported for the operations workshops would have been reported for the micro-teaching workshops. Unfortunately, as this report is being written in late January, the micro-teaching workshop has not been offered during the current school year. It was thus impossible to provide current participant evaluation data on this workshop.

To provide some basis for a partial evaluation, consultants viewed and evaluated a video tape of a partial previous presentation of the workshop. After careful consideration, however, it was decided that any evaluation based solely on the video tape would be superficial and inconclusive. As a result, no evaluation data are presented here. However, it is suggested that such an evaluation should be carried out in the future.

INTERVIEW DATA

Data from the objective inventories discussed above were supplemented with a number of interviews conducted by the present consultant. The purpose of the interviews was to gain information from central administrative personnel concerning a variety of topics relating to the operation of the ITV program.

Interview Procedure and Content

Early interviews with project and Model Schools Division personnel established the names of specific individuals within the central administration who would be expected to have information and relevant attitudes concerning the ITV program. Each of these individuals and some others were contacted for interviews. While no request for an interview was denied, several of those thought to have useful information indicated that they were familiar with the existence of the ITV program but knew so little about it as to make an interview nonproductive. Those who were finally interviewed, however, provided considerable relevant information covering a number of content areas.

Major areas of concern in the interviews included: (a) the visibility of the program within the central administration; (b) opinions concerning the funding history and future funding of the program; (c) the effectiveness with which the program is administrered; (d) level of support present in the central administration; and (e) the effectiveness of the program in increasing communications between the central administration and the individual schools.

Interview Findings

What follows is a descriptive summary of major points raised by the interviewer and responded to by various interviewees, as well as additional points raised by the interviewees themselves. Not every individual interviewed was asked to respond to each of the areas, since it was necessary to adjust interview content in terms of its relevance for a particular person being interviewed.

Program Visibility. Some sense of the impact of an existing program in a large school system may be gained from an assessment of the familiarity of central administrative personnel with the program. While certain individuals interviewed were clearly very familiar with the program, it became apparent that more general visibility of ITV is rather low. Although the program has been in existence since 1969, it's lack of substantial or widespread visibility may not be surprising in light of three factors: (a) the size of the school system and the fact that there are many innovative projects operating at any given time; (b) the program has been operating only within the Model Schools Division and (c) despite the substantial expenditures in earlier years for equipment, the program is not, in terms of current funding, a particularly large one.

Central Administrative Support. Those who are familiar with the details of the ITV program were uniformly supportive of its continuation and, in some cases, expansion. Those who had actually seen the program in operation indicated that they were favorably impressed, and in some cases quite enthusiastic, about this approach to education. Some indicated that the

program should immediately become an established component of the school system with a regular budget line, while others suggested that more time was needed to evaluate this program before it was permanently established and expanded. Still others indicated that although the program was valuable and should be continued, more active and widespread support from higher administrative officials is needed.

Program Funding. The program's funding history, though not atypical of innovative educational projects, is seen as a weak one. Some administrators pointed to the fact that since its inception the program has had difficulty in maintaining a funding base and, at times, has had literally no funds, while at present the only salaried program position is that of the project director. They pointed out that this history of inconsistent and generally low levels of funding could hardly be expected to lead to a highly successful, widespread program. Some suggested that the only way to make the program entirely viable would be to include it in the regular school budget with funding for additional full-time personnel. Additional funds for equipment repair and replacement, services of consultants expert in closed circuit educational TV innovation and utilization, and for other purposes would also be needed.

Program Administration. Those interviewed were generally positive about the effectiveness with which the program is being administered and specifically with the work of Mr. Donald Monroe, the program director. Comments concerning Mr. Monroe's performance varied from "nothing negative, no problems" to "doing an outstanding job." Some pointed out in particular that the program has been able to establish and maintain good rapport with the various individual schools involved and that most school principals are happy both with the program generally and with its director specifically. The written evaluations provided by school principals and discussed above would support this observation.

Indications of Success and Enthusiasm. Some of those interviewed pointed to the fact that a project like the ITV Program cannot be successfully conducted without the substantial interest and enthusiasm of a number of individuals, including school principals, teachers, and central administrative personnel. It was further pointed out that much of this interest and enthusiasm does seem to be present. Four specific indications of support for the ITV program were cited by interviewees: (a) evaluative feedback from teachers preceding the present evaluation has been highly positive; (b) when new schools were recently added to the Model Schools Division, most immediately indicated interest in becoming involved in the ITV program; (c) a generally supportive attitude has been seen in those administrative offices with which the program has had most direct contact; and (d) a number of individual school principals, familiarized with the ITV program, have decided to include in their budgets funding requests needed to provide equipment for their schools.

Intraschool Communication. The ITV program has been expected or intended to serve as a tool for improving lines of communication between school administrators and teaching personnel and also between individual

schools and the central school administration. Those interviewed had little information on this point. Some pointed out that the potential for increased communication between the individual school administrator and the teachers under his direction is substantial, and the evaluation by the school principals reported above indicates that to some degree this potential has been realized. Improvement of communications between the individual schools and central administrative personnel does not, at this point, appear to be a reality. Some noted that ITV could clearly be used, for example, to provide for the central administration demonstrations of particular teaching techniques, innovative approaches to education, and the like. However, there has apparently been little enough of this application that those interviewed were generally not aware of it. Moreover, they felt that this was a less important use of ITV than many of the other uses to which the approach could be put.

Program Improvements. Some of those interviewed indicated that certain improvements in the ITV program would be useful, though none of the interviewees attempted to be exhaustive on this particular topic. Five specific improvements which should be noted were suggested: (a) the ITV equipment already existing in the schools is not being adequately used. Teachers who have learned to use the equipment need to make more frequent use of it; (b) a feedback system which would allow students and teachers viewing monitors in a central distribution system to ask questions, would be a useful addition in those schools where a distribution system exists or is shortly expected to exist; (c) too few teachers in any given school building have learned to use the ITV equipment, even though there is interest among additional teachers in many of the schools; (d) more reinforcement or retraining workshops are needed. Teachers may forget some of the details of equipment operation or not learn all aspects at their first equipment skills workshop. As a result, they may not use the ITV equipment until they have had an opportunity to participate in a reinforcement workshop where they can ask questions and receive additional training. And (e) consultants experts in ITV utilization should be brought in periodically to suggest new uses and to evaluate and make suggestions concerning current uses.

Each of the improvements suggested may well depend, in large part, on the provision of a higher level of funding for the ITV program. The lack of project personnel may well make it difficult, or impossible, to offer an adequate number of reinforcement workshops and, likewise, to train additional teachers in the use of the equipment. The other improvements suggested would likewise seem to depend in part on the availability of adequate funding.

ITV: A SUMMARY DEMONSTRATION TAPE

As was indicated in introducing the present report the intention in conducting the present evaluation was not merely to evaluate but also to inform. As a result, the present consultant requested that the ITV program provide a summary demonstration tape, showing various project functions in process. Discussions with the program director suggested that such a tape would be feasible and that the program would be willing to provide the tape as a part of the present report.

The formal request for the demonstration video tape suggested inclusion in the tape of the following elements: (a) most significant components of the workshop training sessions; (b) one or more teachers employing ITV in the classroom in conjunction with micro-teaching; (c) a master teacher critiquing a young teacher concerning the same classroom exercise; (d) children receiving educational feedback as they see themselves on ITV; (e) pupils operating ITV equipment; (f) one teacher showing another how to use ITV facilities; and (g) some of the variety of other uses to which ITV has been put, such as the production of school news programs by pupils. The video tape, approximately sixty minutes in length, has been developed and is deposited with the present report in the Office of Planning, Innovation and Research. It can be viewed on standard, compatible school system equipment, and those who wish to gain a firsthand knowledge of some aspects of the ITV program are encouraged to view this tape.

CONCLUSIONS AND RECOMMENDATIONS

An attempt is made here to integrate the evaluative information presented in the foregoing sections of the report in order to provide an overview of the present status and potentials of the ITV program, with emphasis on the micro-teaching component. The integration and overview is presented in three major sections. The first deals with the strengths and potential strengths of the ITV program as it exists in the D. C. School System. The second section deals with areas which may profit from improvement or modification. And the final section provides a series of recommendations growing out of the present evaluation.

Areas of Strength and Potential Strength

The fact that most ratings across the various areas covered by the various forms of program evaluation were positive to highly positive suggests that the ITV program may have a number of substantial strengths as seen by the various groups and individuals evaluating this project. For purposes of discussion, strengths are discussed as falling in five major areas: (a) teaching evaluation and improvement; (b) interclassroom and interschool sharing of enrichment programs; (c) personnel support for the ITV program; (d) school-community relationships; and (e) workshop quality. Each area of strength is discussed below in terms of the aspects of the present evaluation relevant to that area.

Teacher Evaluation and Improvement. To a considerable extent, members of the central school administration interviewed, individual school administrators, master teachers and teachers share the perception that instructional television is a powerful vehicle for the evaluation and improvement of teaching. One means for the promotion of such teaching improvement was seen as the micro-teaching program. Overall evaluations of this program by teachers, master teachers and administrators were highly positive. Simply stated, the micro-teaching approach is seen as an effective educational device which

can produce considerable improvement in teaching at all levels and in a variety of subject matter areas within the school system. In addition, ITV can be used by the individual teacher quite effectively for self-evaluation (a mean of 6.32), and administrators noted that ITV provides an excellant means through which suggestions can be made by administrators regarding teaching improvement (6.50). Administrators were also impressed with the utility of ITV in bringing teacher innovations to the administrator (5.92) and in providing a significant basis for the expansion and improvement of the school curriculum (5.93).

Before leaving the point regarding teaching improvement, it should be noted that specific aspects of the micro-teaching approach were seen as having considerable room for improvement, even though virtually all aspects received evaluations in the quite effective to very effective range.

Shared Enrichment Programs and Related Uses. This second area of particular ITV utility is noted due to the high ratings received from various groups on a variety of items ranging from the taping of field trips to the use of educational television in the classroom. To be more specific, the various evaluation groups indicated that the video taping and cross-classroom sharing of field trips is a valuable function served by ITV (5.96). In addition the sharing of taped enrichment programs across classrooms and schools (6.13) and a more general sharing of materials and expertise through the use of video taping (6.04) are highly valued uses of instructional television facilities and personnel. The sharing of video taped cultural activities is likewise seen as having high value within the school system (6.18), as is the development of a library of useful video tapes (6.23). Administrators, in particular, indicated that the use of ITV to further the sharing of taped enrichment programs is a highly valued function of an instructional television program (6.73). Finally, in this area, the use of ITV to provide a basis for the storage and time-appropriate utilization of educational television programs was explored. The high value of this activity (6.04) indicates that it, too, is seen as a particularly effective use of ITV.

Workshop Quality. The equipment skills workshops receive almost uniformly high ratings. Little can be said about the workshops that was not said in discussing this aspect of the evaluation above. As developed by the current project director and other personnel, these workshops are carefully formulated, clearly and expertly presented, and effective in educating teachers and others in the use of ITV equipment as well as in the micro-teaching concept. It should be noted that despite the highly positive evaluations of the workshop approach, one possible weakness of the approach is seen below in a discussion of areas possibly in need of improvement.

School-Community Relationships. This particular area was not as heavily evaluated as many of the others. However evaluations that are available range from positive to extremely positive. In particular, school principals and assistant principals, who have direct and ongoing contact with the community, gave ITV a particularly high rating (6.33) for its effectiveness and potential effectiveness in school-community relationships. In addition,

comments from administrators participating in interviews supported the positive potential of ITV in this area. It should be noted that in order for this potential to be fully realized, further development of programs in adult education and parent-teacher action will be required.

Personnel Support for ITV. While it may not be entirely an indication of the educational value of a program, the degree to which that program receives support from various school system personnel affected by the program is often indicative of the overall perceived need for the program and of the impact it is having. It is in this area of personnel support that ITV receives some of its highest ratings in the entire evaluation. Groups giving mean ratings ranging between 5.0 and 6.0 to a variety of specific points regarding aspects or functions of the program tended to give ratings well over 6.0 when asked about the need to continue or expand this project. Master teachers, for example, gave an overall rating of 6.00 to the ITV program, and indicated that it should definitely be both continued (6.31) and expanded (6.23). This high level of support was echoed by both high school principals and assistant principals and, in interviews, by members of the central administration.

The fact that these overall ratings were often higher than ratings on specific items may well suggest that the full potential or perceived potential of the ITV program has not yet been realized. The conclusion here would be that while this program has been quite effective, some improvements are needed to bring the operating program up to its potential strength.

Student Learning: A Mixed Evaluation. In various ways, several groups of individuals involved in the evaluation were asked to assess the extent to which ITV is effective in promoting learning. The assessments provided are somewhat mixed. On the one hand, TV was seen as highly useful in motivating both regular students and slow learners to learn (means of 5.96 and 5.87, respectively). In addition, the direct education of students is seen as profiting from the use of ITV to repeat lessons for students needing such repetition (5.86). On the other hand, when asked to directly assess the amount of learning in students taught by micro-teachers as compared with those taught by teachers without such a background, master teachers gave only a slightly positive evaluation (4.64). A further indication on the more positive side is the fact that the overall area mean for direct student education was in the quite effective to very effective range (5.60).

Mixed but generally positive evaluations of the impact of ITV in student learning may well suggest a degree of ambiguity perhaps based on lack of direct information. This ambiguity was confirmed in some administrator interviews. The fact is that there has been little opportunity or attempt to directly assess the relative learning of students taught by teachers with and without a micro-teaching background in the D. C. School System. Some literature available suggests that learning is superior under micro-teachers, though results are not entirely consistent, and more importantly, literature relevant to this point developed in other school settings might well not be applicable to the ITV program in the D. C. Schools.

Less Positive and Possible Problem Areas

As the above subheading suggests, not all areas of the ITV program received such strongly positive evaluations as those discussed in the preceding section. However, it should be noted at the outset that even the relatively weak areas to be discussed here received ratings which fell above mid-scale (in cases where ratings were done) and hence should not be thought of as significantly negative areas. Given these cautions, five principal areas can be discussed.

Adequacy of ITV Utilization. Among the lowest ratings received in the present evaluation was that for adequacy of ITV equipment utilization. Ideally, of course, all existing equipment should be in use most of the time in order to maximize the impact of instructional television where it does exist within the school system. Clearly, those responding in the evaluation felt that there is room for improvement in the utilization of ITV facilities. The reduced usage of these facilities may relate to a perceived need for a larger number of teachers and other school personnel to learn the use of the ITV equipment. At present approximately six teachers in each of the original Model Schools have been trained. Training of a larger number of teachers would clearly be likely to lead to greater utilization of the facilities. Of further interest in this connection is the perceived need for more frequent and widespread presentations of the reinforcement workshops in which teachers trained earlier are retrained or have opportunities to clarify any points not clear in the first presentation. The teacher who is not able to use the equipment with reasonable ease may well decide not to use it at all. Both the relatively small number of teachers trained and the need for more reinforcement workshops are undoubtedly related to the need for a higher level of stable funding in the program. However, it may also be the case that workshops in equipment operation as currently presented can be supplemented with other approaches noted under recommendations below.

Program Funding. Perhaps the single major problem relating to the ITV program is the need for stable funding at a level higher than that currently available. The funding history of the program, as noted earlier, is unstable, making long-term planning difficult and implementation sometimes impossible. The substantial support found at all levels from teachers through individual school administrators to central administrative personnel may make it feasible to provide a stabilization of funding for this program in the near future. In addition to stability, the program would be substantially enhanced by some increase in the level of funding. The only currently funded position is, of course, that of director. And as will be noted under Recommendations below, additional program personnel would be helpful.

Program Visibility. The need for substantially more widespread and greater visibility of the ITV program within the central administration of the school was pointed out in the report of interviews above. Little more need be said about this point, except to note that the base of administrative support for this program must be broadened and deepened if it is to be effectively continued, and particularly if it is to be expanded.

Convenience and Opportunity. Although above mid-scale, two of the ratings that were among the lowest received were that for the physical convenience of using the ITV facilities (4.89) and that for adequacy of opportunity to use the equipment (4.50). While the actual setup of the equipment does not appear to be particularly inconvenient, it may well be that the process of obtaining the equipment for short-term use, rearranging furniture, and more generally modifying the environment to accomodate ITV is seen as an inconvenience by some users. Some possible ways to increase the convenience, for the individual teacher, of making use of ITV facilities are considered in discussing recommendations below.

Teacher-Administrator Communications. While individual school administrators felt that ITV is a useful tool for such purposes as evaluation of teaching performance and communication of individual teaching skills and innovations, they gave ITV relatively low ratings as a tool for increasing communications between administrators and teachers (4.80). Teachers provided a similar rating (4.89). Finally, central administrative personnel were not enthusiastic about this particular function of instructional television facilities. Overall, it would appear that the teacher-administrator communication function of ITV is either one which is less well developed than other functions or one which may not represent a particularly viable projected use of ITV. This does not in any way detract from such ITV functions as microteaching, which received very high ratings. It simply means that the other functions should probably be emphasized and the communication function deemphasized, at least for the present time.

Recommendations

Despite the generally positive evaluation of the ITV program, a number of program and program-related modifications are suggested by the overall assessment. Some of the recommendations which follow can be implemented with present personnel and funding. Others, however, would require a higher level of stable funding to permit full implementation. The recommendations are subclassified into a number of specific areas and are numbered consecutively throughout for convenience of reference.

Program Funding

Perhaps the most obvious recommendation, given the earlier discussions of evaluative information in the present report, is that the funding base of the ITV program be given careful scrutiny with an eye toward modification. More specifically:

1. Funding for the position of Program Director should be stabilized through inclusion in the regular budget or other means. This would help to assure that the program would not lose its director, and he could more effectively plan for the next two school years.

2. Additional funds should be made directly available to the program. It is essential that, if possible, such funds be budgeted specifically for this program, such that an approximate two-year program budget projection is available. This will provide a stable basis for purchasing equipment and for other purposes noted in the following recommendations.

3. Funds should be available, if possible, to provide a substantial number of substitute teacher days in order to free teachers for participation in ITV and micro-teaching training.

4. Funds should also be available for equipment repair and purchase and for adequate video tape and other supplies to permit an increased level of program operation and ready availability of facilities to teachers who desire to use the equipment.

5. If possible, this program should be provided with a secretary, who is available on at least a part-time basis.

The Micro-Teaching Component

The assessment of the micro-teaching component of the ITV program was, of course, emphasized in the present evaluation, as requested. It is clear from the evaluation that micro-teaching is widely seen as an effective method for the improvement of teaching. A somewhat striking observation from the present evaluation is that ITV more generally is seen as an even more effective tool for the improvement of teaching, suggesting that: (a) the micro-teaching approach as applied here can perhaps be somewhat improved upon; and (b) ITV may be effectively used to improve teaching performance through means other than (i.e., in addition to) micro-teaching. Several specific recommendations follow from these observations:

6. The program emphasis on micro-teaching is effective and therefore appropriate. Hence, the micro-teaching approach should be continued and expanded to involve a larger number of teachers and other personnel.

7. The micro-teaching component should be expanded specifically to include both inexperienced and experienced teachers in the training process. Acceptance of such a training program by some experienced teachers may present difficulties. However, if the program is to be maximally effective, it must reach a maximum number of teachers. The following recommendations are relevant to this point:

a. School principals who are supportive of the micro-teaching program might make known the availability of this program to all teachers and encourage widespread involvement in the program. In this way the program will not continue to be identified with the inexperienced teacher, and experienced teachers may accept it more readily.

b. If experienced teachers feel threatened by having local colleagues as master teachers, arrangements might be made to bring in master teachers or supervisors from outside the school. Quite possibly an exchange program could be worked out so that master teachers who regularly teach in one particular school would conduct supervision in a different school.

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c. Demonstrations and explanations of ITV utilization at various functions, such as faculty meetings, PTA meetings and assemblies would familiarize the teachers more specifically with the program and lead to widespread familiarity with and perhaps enthusiasm for this approach.

d. The experienced teacher might be asked to provide demonstration tapes for viewing by inexperienced teachers, while at the same time herself participating as a trainee in the micro-teaching program.

e. Possibly course credit at one of the area universities could be arranged for training in micro-teaching.

8. The micro-teaching component might be expanded to include training in specialized subject-matter teaching skills. In essence, the teacher would be trained in the nine basic skills currently offered through micro-teaching, then given further training within her particular subject matter area. This specialized training could involve the use of demonstration tapes in which a subject matter expert teaches a lesson and could also involve video taping of the individual teacher followed by a critique offered by a master teacher. Such "mini-courses" are already offered in the school system, and the combination of these courses with micro-teaching might be a quite viable possibility.

9. More generally, the modeling approach, most thoroughly investigated by Bandura, might be applied in conjunction with the current micro-teaching program. In this approach, the teacher observes a video tape in which a model teacher demonstrates a very specific teaching skill or method. The teacher-in-training then attempts to model or imitate the expert. Certain points relate to this recommendation.

a. Tapes provided would have to be very carefully developed and represent, essentially, the ideal performance. Tapes not developed in this careful way might well cause a decrease in teaching performance by the teacher who models an incorrect or inadequate teaching performance.

b. The tapes could be made available for the teacher to view whenever time permitted. This might be accomplished by making tapes and equipment available in a separate office or in a teachers' lounge.

c. The optional availability of tapes after school hours would also be desirable for those teachers who might want to view them at that time.

d. A further possibility would be that the teacher might actually use a model tape in class to provide for students an alternative presentation of a particular lesson.

Workshop Effectiveness

The workshop evaluations reported above make it clear that at least the equipment skills workshops are already seen by both participants and consultants as highly effective offerings (the micro-teaching workshops were not,

of course, evaluated). Nevertheless, several recommendations concerning these workshops can be made:

10. If the workshop method is to continue as the principal approach to training personnel in equipment utilization and micro-teaching skills, the workshops should begin the first week of school and continue at as high a frequency as possible through the end of the school year.

11. The reinforcement workshops, which serve to bolster the teacher's earlier-learned knowledge of ITV should be offered more frequently either by ITV program personnel or by media coordinators or others within the individual schools.

12. Each operations and each micro-teaching workshop should begin with a carefully developed frame of reference in which the participants learn the purpose and the uses of ITV, hence making teachers maximally familiar with more than the operation of the equipment or the micro-teaching skills. Not all workshops in the past have been cast within this carefully stated frame of reference.

13. Teachers and others participating in the workshops should be given materials to take with them for their later study and for convenient reference. Materials should include a brief operating manual for the ITV equipment and a brief description of the various uses of ITV, as well as a list of previously recorded tapes which are available for classroom use.

14. Students should be present, where possible, at every operations workshop. It has already been demonstrated that students can readily learn the use of equipment, and some recommendations which follow suggest that students may be most helpful in expanding the ITV program and making it more fully effective.

Alternatives to the Workshop

Despite the overall quality and effectiveness of the workshops offered in this program, they suffer from one major fault: they do not reach enough personnel frequently enough to carry the entire load of introducing a major program into the school system. Therefore, some alternatives can be suggested:

15. Some training has already been done by teachers or media coordinators within individual schools. This emphasis should be expanded. Several individuals in each school (perhaps two or three initially) could be taught not only to use the ITV equipment but also to present the operations workshop. These individuals might then be encouraged and helped to set up a regular schedule for offering the workshop to other teachers within their own schools.

16. ITV program personnel could continue to offer workshops, but would set aside considerably more time to act as consultants to media coordinators and individual teachers. They would answer questions, solve problems, and help in the specialized applications of ITV, rather than offering the standard workshop repeatedly themselves.

17. Junior high school and particularly senior high school students could learn to offer the operations workshops. Given a standardized set of materials and a reasonable amount of training, some students could undoubtedly do an excellent job of presenting this workshop. They could then become involved in training teachers and other students within their individual schools.

18. Demonstration video tapes could be prepared by program personnel and used in the individual schools to aid in the presentation of workshops.

19. These same demonstration tapes could very profitably be deposited in a central location in each school for viewing by any teacher in that school. The teacher with prior training could then reinforce her skills by viewing the video tapes, and teachers without prior training but with interest in the program could view the tapes as an initial step in developing the necessary skills. This recommendation might be particularly important for the immediate future. It would be relatively easy to provide the demonstration tapes to individual schools quickly, hence making reinforcement workshops less immediately necessary.

20. A copy of the demonstration tape developed in conjunction with the present report might be used in a variety of contexts, not as an alternative to the workshops but as an adjunct to them, since the tape does show various applications of ITV and provides an effective and interesting means of familiarizing the teacher with its various functions.

Convenience and Utilization

Convenience of using ITV equipment and degree of utilization received, of course, relatively low ratings. Several recommendations are relevant to this area:

21. Continuation and expansion of the program to train students in equipment utilization has considerable potential here. Interested students could readily become quite expert with the ITV equipment and could provide for its setup and operation, thus helping the teacher to more efficiently and conveniently make use of the facilities.

22. Students might well be interested in becoming members of ITV teams which would be available for the taping of field trips, cultural events, etc. These teams might be operated within the individual schools or through the central ITV program office. The student would not only be providing a service, but would be engaging in an interesting activity which might well have career relevance for some pupils.

23. As an additional incentive, students might be offered course credit for some of their participation in the ITV programs.

24. It might also be feasible and useful to offer ITV training to maintainence personnel, who could be helpful to teachers in the setup and operation of the equipment.

25. Additional college students might be solicited from the various universities in the area on a volunteer basis. The student would gain experience in ITV, could possibly gain independent study credit at the university, and would provide a valuable service in training teachers, helping out in the communications laboratories, and in other functions.

26. Some teachers commented on the inconvenience of moving furniture and generally rearranging the environment to accomodate ITV facilities. Where it is feasible to do so, schools might set aside a room which could be used by teachers on a rotational basis and which would be continually setup for the use of ITV equipment. Micro-teaching lessons, video taped demonstrations, taping of individual pupils for later critique, and a variety of other functions could be carried out in this special room.

The Tape Library

The development of a library of video tapes for sharing across classrooms and schools is already a reality. However some recommendations are relevant to the expansion and coordination of this tape library to maximize the effectiveness of its utilization:

27. The tape library will need a carefully coordinated, centralized distribution to be maximally effective, since the same tapes may be used in a substantial number of schools. The library system should be organized to make the use of tapes maximally convenient for the individual teacher, hence increasing the likelihood that the tapes will be widely used. Several specific points are relevant here:

a. The teacher should have a readily available and frequently updated listing of all tapes available in the school system or in her area.

b. The system should require that the teacher only complete a brief request form, indicating the date and time of her need for a specific tape.

c. The system should allow for teachers to receive tapes with minimal advance notice.

d. One obvious reality is that not all teachers will learn or want to learn to personally use ITV equipment. To make the library of video tapes readily available to their students, media coordinators, trained students, maintainence personnel and others familiar with equipment operation should be available to set up and/or show the video tapes for the teacher.

28. Contributions to the video tape library by classes, individual teachers and others should be actively encouraged.

29. The student ITV teams recommended above might be encouraged to be available for the video taping of cultural events, sporting events, field trips and other activities for contribution to the tape library.

30. Tapes which are in great demand might be copied, with each school or area provided with its own copy of the tape.

31. Additional sources of useful library tapes should be actively sought out by program personnel. One possibility would be a video tape exchange program with other school systems using ITV. Others would include educational television stations, and a variety of publishing and film houses which rent and sell video tapes. In the later case, individual teachers or groups of teachers might review lists of available tapes and recommend those which would be most useful within available funding.

Program Visibility

As was noted above, the ITV program needs to become more visible, both among teachers and within the central school administration. The following recommendations are relevant to this need:

32. A regular (perhaps monthly) newsletter should be published by the ITV program. The newsletter need not be elaborately done or printed, and could, in fact, be mimeographed for distribution primarily within the school system. The primary purpose would be to inform the users, and potential users as well as other interested parties, on a variety of matters. Included could be:

a. Descriptions of innovative uses which might be made of ITV facilities.

b. Descriptions of new facilities which have recently become available.

c. Schedules of ITV workshops and other activities.

d. Descriptions of current uses of ITV by individual teachers or groups within the school system.

The newsletter could be widely distributed within the Model Schools Division or even more widely throughout the school system, and should be sent to all central administrative offices to increase program visibility at that level. The "burden" of producing the newsletter would not have to be assumed entirely by program personnel. Both teachers and students could be encouraged to contribute, and quite possibly journalism and art classes would be willing to contribute systematically to the newsletter. A student editor would even be a possibility.

Specialized Applications of ITV

33. The use of ITV in adult education should be deemphasized until such time as the program is more fully operational within the school system.

34. A systematic pilot program in parent feedback should be developed within the ITV project. The parent feedback program might best be operated by a small number of teachers in a few schools within the Model Schools Division initially. Under guidance from ITV program personnel, these teachers would use ITV in the context of parent conferences to show parents the progress and/or problems of their children in school. An integral part of this pilot project should be an ongoing assessment of both parent and teacher reactions to the use of ITV in this context. The emphasis here is on a systematic pilot program, as opposed to sporadic use of equipment for this purpose by individual teachers. Clearly, the project will gather information relevant not only to the specific use of ITV to feed back information to parents, but also concerning the acceptance of this teaching approach by the community.

35. Active cooperation with and help from educational television stations, such as Channel 26, should be pursued. The stations might be willing to provide tapes of certain of their programming for school system use, and might permit copying of such tapes for inclusion in the tape library.

36. As an alternative, and assuming permission of the educational TV stations, the ITV program office might provide a centralized recording and distribution function, such that most major ETV offerings would be recorded, or particular programs recorded at the request of teachers, and these tapes would be stored in the library and made available to the individual teacher at her request.

37. Consultants expert in instructional television should be brought in periodically to suggest improvements in existing programs, inform ITV personnel concerning newly developed uses of the facilities, and perhaps consult with individual teachers or groups of teachers concerning their own ITV needs. Arrangements might also be made for exchanges of consultations with other major school systems using ITV. Experts from those school systems would visit the D. C. System and ITV program personnel from the District would reciprocate by visiting the other schools.

Program Research and Evaluation

The present report results from the first systematic, program-wide evaluation of ITV since its introduction into the school system in 1969. Evaluations should not stop with this report, but rather should be continued and increased in scope. In fact, the limited time period and necessarily limited scope of the present evaluation has not made it possible to provide detailed evaluations of all aspects of the program. Several specific recommendations are the following:

38. The micro-teaching workshops should be specifically evaluated. As pointed out above, this was not possible, as the workshops were not offered within the time period alloted for the present evaluation. Instruments are already available for this evaluation.

39. As some of the above recommendations are implemented, such as those dealing with alternatives to workshops, new evaluations should be done to assure that the recommended approaches are effective.

40. One specific study which should be conducted in the near future, is a systematic experimental study comparing the effectiveness of teaching by micro-teachers with that of equally experienced teachers not trained in micro-teaching. It will be recalled that results of the present evaluation suggest considerable ambiguity on this point on the part of master teachers. While this study was not within the scope of the present evaluation, it is an important one for the near future.

41. A second experimental study should be carried out to investigate the learning which takes place in pupils taught by micro-teachers as compared to learning over the same material covered by teachers not trained in micro-teaching. An alternative to this comparison involves comparing the learning taking place in different groups of students under the same teachers before and after training in micro-teaching. This study will present some difficult, but by no means insoluble, design, sampling, and criterion problems. However, it is a valuable study which needs to be undertaken as soon as possible.

42. A standardized program of assessment and evaluation should be instituted for ongoing use in connection with the ITV program. Using carefully developed instruments, it would be possible to provide, with little effort on the part of project personnel, a constant flow of evaluation data. These data would be useful to the program director and his colleagues in determining the effectiveness of each aspect of the ITV program, including new program developments, and would provide a data base for inclusion in reports of program progress.

Program Continuation and Permanence

43. The present evaluation indicates that Instructional Television Program personnel have clearly demonstrated the capability of ITV to provide a variety of educational innovations and services within the District of Columbia School System. Given the often limited and unstable funding of the program, some of its accomplishments are certainly outstanding. In fact, it seems likely that an eventual recommendation for regular budgeting and permanent continuation of the full-scale ITV program throughout the D. C. Schools would be both appropriate and likely. However, it is not recommended that this program be immediately implemented throughout the School System or that it immediately become a permanent component in that system. Rather, it is recommended that an additional trial period of one and one half to two years be instituted. During that time, the program should receive as much financial support from the School System as possible, including the funding considerations noted above.

The reason for this recommendation is that, largely due to unstable funding, the program has not had sufficient time to fully answer all of the evaluation questions which arise or to fully develop its potential as a major, innovative approach to education. The program needs, in particular, to explore and implement alternatives to the workshop approach, to expose a larger group of teachers and other school system personnel to ITV and its various applications, and to institute measures which will increase the effective utilization of the ITV facilities throughout the Model Schools Division. Moreover, with a number of new schools recently added to Model Schools, the program has an ideal opportunity to expand, an ability which will be particularly important if this program becomes system-wide. In addition, the trial period will permit further assessment of program effectiveness and give the program an opportunity to implement, as appropriate, some of the recommendations given above and perhaps other modifications as well.

The final recommendation thus is that the ITV program be continued, with somewhat increased and stabilized funding, but that it remain within the Model Schools Division and not gain permanent status until the completion of an additional trial period.

APPENDIX A

EQUIPMENT SKILLS LABORATORY MATERIALS

PUBLIC SCHOOLS OF THE DISTRICT OF COLUMBIA
MODEL SCHOOL DIVISION

INSTRUCTIONAL TELEVISION WORKSHOP
PHASE II

A G E N D A

I. Orientation

II. Review of Purposes and Objectives

III. Review of Glossary

IV. Hands on With Studio and Title Cards (Graphics)

V. Hands on (Using Cards and Equipment)

L U N C H

VI. Phase II - Micro-teaching

VII. Phase II - Student Involvement in Micro-teaching

CAMERA

1. Do not point camera down or leave in down (vertical) position.
2. Never change lens unless on-off switch is in "standby" position. Never expose face of vidicon tube to extreme light -- do not point camera into bright light or sunlight.
3. Cap lens when not using camera or lens.

VIDEO TAPE RECORDER

1. Never thread tape while heads are rotating. Be sure the machine is turned off.
2. Always thread machine exactly as shown on cover.
3. When using monitor during recording be sure to turn down audio volume on monitor (to avoid feedback).
4. Clean heads with side motion (horizontal) only. Allow a couple minutes after cleaning before threading tape.
5. Do not spill head cleaner or deck or type reels or any plastic or enamal surface.
6. Always return play--record switch to "stop" position when not in use.
7. Turn off all equipment when not in use.
8. Replace covers on all equipment when not in use.

GENERAL

1. Always put empty reels and power cord in place provided.
2. Never store equipment in extreme environmental temperatures or humidity.
3. Allow equipment to return to room temperature before operating.
4. Store tapes in their containers in environment that is "comfortable for people". Place containers on shelf in vertical position (as books on bookshelf).
5. Your equipment is delicate -- Treat it with care.

GRAPHICS

Television graphics include a multitude of material. All two-dimensional visuals that are especially prepared for the television camera, such as title cards, special illustrations, maps and charts can be called graphics.

PREPARATION FACTORS

The television camera again dictates certain roles that must be observed in the preparation of graphic material. The major factors to be considered are (1) style of art work, (2) size and clarity of layout, (3) color and gray-scale response, and (4) ease of operation.

Size and Clarity

The relatively small, proportionally fixed screen size of the television set, as well as the quality of the picture reproduction, demand maximum clarity for all television graphics.

Aspect Ratio

The proportions of the television screen are three to four -- that is, the picture is always three units high and four units wide. All picture information must be contained within this three-to-four aspect ratio.

Scanning and Essential Area

The area framed by the camera and transmitted by the station (and under ideal conditions, received on the home set) is called the scanning area. Centered within the scanning area is the most important part of the picture area, the essential area. All portionent copy and picture information must be contained within the boundaries of the essential area, if the information is to be seen on a majority of television receivers.

Layout

The amount of information that can be simultaneously projected on the television screen is limited. You should confine your copy to no more than ten words. Screen size and resolution, therefore, demand great simplicity in the general layout of television graphics. Your main purpose in using television graphics is to communicate; the simpler your presentation is the better your communication will be.

APPENDIX B

INSTRUCTIONAL TELEVISION QUESTIONNAIRE

PLEASE RETURN TO PRINCIPAL"S OFFICE BY _____

INSTRUCTIONAL TELEVISION QUESTIONNAIRE

IMPORTANT: YOUR IMMEDIATE ATTENTION PLEASE. This brief questionnaire (10-20 minutes) is a major part of an evaluation of the use of Instructional Television (ITV) and Micro-teaching in the D. C. School System. YOUR OBSERVATIONS AND OPINIONS ARE IMPORTANT AND WILL BE CONSIDERED. As you are one of only a few people capable of providing valid information about ITV in the D. C. Schools, it is particularly important that you return this questionnaire by the "Return Date" indicated above. Please take a few minutes now or soon to complete the form and turn it in at the Principal's Office. Thank you.

INSTRUCTIONS. Most items below refer to specific uses or possible uses of ITV. Each of these items involves a rating scale running from 1 to 7. You should check the point on the rating scale which gives your opinion relevant to that particular item. EXAMPLE:

How useful is ITV in training commercial airline pilots?

not at all valuable	:	___ :	___ :	___ :	___ :	___ :	___ :	___ : extremely valuable

If you felt that ITV was of no value in training airline pilots, you would check the space closest to the left end of the scale, which represents a low score of 1. If ITV had

maximal value for this purpose, you would check the space at the right end of the scale. Otherwise you would check a point between these two to indicate how relatively valuable or non-valuable ITV was in this context. In addition, please indicate in the blank to the left of each item approximately how many times you yourself have used ITV for the purpose specified in that item, or write "F" if you are familiar with that use but have never yourself used (ITV) in that way. Any comments you have which go beyond the rating scales are welcome and should be written on a sheet of paper and attached to the questionnaire.

NAME _____ SCHOOL _____

GRADE(S) OR SUBJECT(S) _____

YEARS OF TEACHING EXPERIENCE _____

POSITION IN RELATION TO ITV: TEACHER, MASTER TEACHER(MICRO-TEACHING EVALUATOR), SCHOOL ADMINISTRATOR, MODEL SCHOOLS SUPERVISOR, ITV COORDINATOR for your school. (Circle one).

EFFECTIVENESS OF ITV PROGRAM

Please answer each of the items below in relation to the following question: How effective or useful has ITV been or could it be:

___ 1. By permitting the teacher to make tapes of each student and chart his or her growth patterns?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 2. In increasing the motivation of pupils to learn?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 3. In motivating slow learners (e.g., the "Give a Helping Hand" program)?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 4. In increasing actual learning in the ordinary student?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 5. In increasing actual learning in the slow learner?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 6. In increasing learning in the student who has difficulty by having him write and then read on TV his or her own story (e.g., the "Read On" program)?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 7. In reinforcing learning by repeating for some students video taped classroom exercises?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 8. By permitting the sharing of instruction across classrooms and schools through closed circuit TV?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 9. By use of closed circuit counseling sessions for students having classroom adjustment problems (e.g., the "Talk Show" program)?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 10. In aiding self-evaluation by a teacher of his or her own teaching performance?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 11. In aiding the evaluation and guidance of relatively inexperienced teachers by master teachers or Micro-teaching supervisors?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 12. In helping the teacher to evaluate the pupil and to feed back the evaluative information to the pupil?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 13. For the improvement of communication between administrators and teachers?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 14. In communicating to parents the performance and skill development of their children?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 15. For communication between schools?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 16. For communication between schools and the community?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 17. In providing adult education programs for parents and other community members?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 18. To permit the use of older students as tutors for younger students?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 19. To make possible student broadcasts of news, school rules, menus, etc.?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 20. To permit student taping of class trips and other activities to be shown to other classes?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 21. To allow pupils to develop enrichment programs to be shared with other classes?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 22. To permit the taping and use of educational TV (e.g., channel 26) in the classroom under the teacher's control?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 23. In providing a basis for the expansion of the school curriculum?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 24. In providing a library of tapes on various subject matters for use by all teachers?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 25. In recording for later use a variety of cultural activities, such as plays, musical recitals, etc.?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 26. As a record-keeping device, as in taping of meetings for later review?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 27. In providing for more effective use of substitute teachers through video tapes of lesson plans, instructions, recent lessons, etc.?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 28. In providing tapes of special situations for use in guiding students?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

ADDITIONAL CONSIDERATIONS RELEVANT TO ITV

___ 29. What is the overall utility and effectiveness of having students learn to set up and operate the TV equipment?

very ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very effective

___ 30. In terms of the need to handle equipment and modify the physical environment (move furniture, etc.), how convenient is it to use the ITV set up?

extremely inconvenient : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely convenient

___ 31. How adequate have the opportunities to use the ITV equipment been for you?

very inadequate opportunity : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very adequate opportunity

___ 32. Have you had adequate opportunity to use ITV?

very inadequate	:	___	:	___	:	___	:	___	:	___	:	___	:	___	very adequate

___ 33. What, in your opinion, is the overall educational value of ITV?

not at all valuable	:	___	:	___	:	___	:	___	:	___	:	___	:	___	extremely valuable

THANK YOU FOR YOUR COOPERATION!

APPENDIX C

MICRO-TEACHING QUESTIONNAIRE

PLEASE RETURN TO PRINCIPAL'S OFFICE BY _____

MICRO-TEACHING INVENTORY

IMPORTANT: YOUR IMMEDIATE ATTENTION PLEASE. This brief questionnaire (about 10-20 minutes) is a major part of an evaluation of the use of instructional television (ITV) and Micro-teaching in the D. C. School System. YOUR OBSERVATIONS AND OPINIONS ARE IMPORTANT AND WILL BE CONSIDERED. As you are one of only a few people capable of providing valid information about Micro-teaching in the D. C. Schools, it is particularly important that you return this questionnaire by the "Return Date" indicated above. Please take a few minutes now or soon to complete the form and turn it in at the Principal's Office. Thank you.

INSTRUCTIONS. Most items below refer to specific uses or possible uses of Micro-teaching. Each of these items involves a rating scale running from 1 to 7. You should check the point on that rating scale which gives your opinion relevant to the particular item. EXAMPLE:

How useful is Micro-teaching in training commercial airline pilots?

not at all valuable : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely valuable

If you felt that Micro-teaching was of no value in training airline pilots, you would check the space closest to the left end of the scale, which represents a low score of 1. If Micro-teaching had maximal value for this purpose, you would check the space at the right end of the scale. Otherwise you would check a point between these two to indicate how relatively valuable or non-valuable Micro-teaching was in this context. In addition, please indicate in the blank to the left of each item approximately how many times you yourself have used Micro-teaching for the purpose specified in that item, or write "F" if you are familiar with that use but have never yourself used Micro-teaching in that way. Any comments you have which go beyond the rating scales are welcome and should be written on a sheet of paper and attached to the questionnaire.

NAME _____ SCHOOL _____

GRADE(S) OR SUBJECT(S) _____

YEARS OF TEACHING EXPERIENCE _____

POSITION IN RELATION TO MICRO-TEACHING: TEACHER, MASTER TEACHER (MICRO-TEACHING EVALUATOR), SCHOOL ADMINISTRATOR, MODEL SCHOOLS SUPERVISOR, ITV COORDINATOR for your school. (Circle one).

SKILLS DEVELOPED THROUGH MICRO-TEACHING

As you know, Micro-teaching attempts to subdivide the complex teaching act into simpler components, such as establishing set, establishing appropriate frames of reference, etc. The first subset of questions here assesses your observations and opinions of the effectiveness of Micro-teaching in developing the skills of teachers in each of these areas.

The basic question for the following items is: How effective is Micro-teaching in helping the teacher to develop and maximize each of the following teaching skills:

___ 1. Establishing set (cognitive rapport with and involvement of pupils)?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 2. Establishing appropriate frames of reference (the use of multiple points of view)?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 3. Achieving closure (integrating major elements of a lesson and linking them with past knowledge)?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 4. Using questions effectively?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 5. Recognizing and obtaining attending behavior?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 6. Control of participation?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 7. Providing feedback (knowledge of results)?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 8. Employing rewards and punishments (reinforcement)?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 9. Setting a model (learning to analyze and immitate models set in Micro-teaching)?

extremely ineffective :___:___:___:___:___:___:___: extremely effective

EFFECTIVENESS IN SUBJECT MATTER AREAS

The ultimate goal of Micro-teaching is, of course, to ensure more effective learning in pupils. Here you are asked to make an implicit comparison of the effectiveness of the teaching/learning process in pupils taught by teachers who have been trained through Micro-teaching with those whose teachers (of similar overall experience) have not experienced Micro-teaching.

In other words, how relatively effective is Micro-teaching in enhancing learning in each of the following specific subject areas at the ELEMENTARY level:

___ 10. Arithmetic

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 11. Reading

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 12. Science

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 13. Social Studies

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 14. Spelling

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 15. Writing

extremely ineffective :___:___:___:___:___:___:___: extremely effective

How relatively effective is Micro-teaching in enhancing the learning process at the JUNIOR HIGH SCHOOL and SENIOR HIGH SCHOOL levels in each of the following subject matter areas:

___ 16. English

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 17. Mathematics

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 18. Science

extremely ineffective :___:___:___:___:___:___:___: extremely effective

___ 19. Social Studies

extremely ineffective :___:___:___:___:___:___:___: extremely effective

ADDITIONAL CONSIDERATIONS CONCERNING MICRO-TEACHING

___ 20. How effective, overall, is Micro-teaching in enhancing learning at the elementary level?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 21. How effective, overall, is Micro-teaching in enhancing learning at the junior high school level?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 22. How effective, overall, is Micro-teaching in enhancing learning at the senior high school level?

extremely ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : extremely effective

___ 23. In general, do pupils tend to learn more rapidly under teachers trained through Micro-teaching?

learn much less rapidly : ___ : ___ : ___ : ___ : ___ : ___ : ___ : learn much more rapidly

___ 24. In general, do pupils learn better (i.e., absorb, and/or retain more) when taught by teachers trained in Micro-teaching?

learn much less well : ___ : ___ : ___ : ___ : ___ : ___ : ___ : learn much better

QUESTIONS FOR MASTER TEACHERS (TEAM LEADERS, EVALUATORS) AND SUPERVISORS ONLY

The following items are intended to tap the unique perspective of those highly experienced teachers and supervisors who have been involved in the training of less experienced teachers, using Micro-teaching techniques. In each question you are implicitly comparing the teacher trained with Micro-teaching with the equally experienced or inexperienced teacher who has not received training in Micro-teaching. In addition, some questions relate to the use of instructional television (ITV) outside the Micro-teaching context.

___ 25. Do teachers trained through Micro-teaching teach better after receiving the training than they did before?

do not teach as well :___:___:___:___:___:___:___: teach much better

___ 26. Do teachers trained with Micro-teaching generally teach better than equally experienced teachers without Micro-teaching training?

do not teach as well :___:___:___:___:___:___:___: teach much better

___ 27. Do students, in general, learn better and/or faster under teachers trained with Micro-teaching?

learn less well :___:___:___:___:___:___:___: learn much better

___ 28. To what degree do inexperienced teachers being trained with Micro-teaching see the Micro-teaching process as threatening to them?

seen as very threatening :___:___:___:___:___:___:___: not at all threatening

___ 29. To what degree do inexperienced teachers being trained with Micro-teaching see it as being of value and help to them?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 30. What do you see as the overall educational value of Micro-teaching?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 31. Do teachers trained in the use of ITV (both in relation to Micro-teaching and in the other uses of ITV) make adequate use of this facility?

very inadequate use :___:___:___:___:___:___:___. very adequate use

___ 32. Should the ITV program in the D. C. School System, in your opinion, be continued?

should definitely not continue	:	___	:	___	:	___	:	___	:	___	:	___	:	___	should definitely continue

___ 33. In your opinion, should the ITV program be expanded?

should not be expanded at all	:	___	:	___	:	___	:	___	:	___	:	___	:	___	should be expanded greatly

___ 34. What is your overall evaluation of the use of ITV in the D. C. School System?

very ineffective and useless	:	___	:	___	:	___	:	___	:	___	:	___	:	___	very effective and useful

THANK YOU FOR YOUR COOPERATION!

APPENDIX D

ADMINISTRATOR QUESTIONNAIRE

ITV ADMINISTRATOR EVALUATION FORM

NAME _____

SCHOOL (OR OFFICE) _____

TITLE _____

Is ITV currently in use or has it recently been in use in your school or office? _____

INSTRUCTIONS. Each of the items below asks you to evaluate Instructional Television (ITV) in relation to some particular function potentially served by these techniques. Each item involves a rating scale running from 1 to 7. You should check the point on the rating scale which gives your opinion relevant to that particular item. EXAMPLE:

How valuable is ITV in training commercial airline pilots?

not at all valuable							extremely valuable
:	:	:	:	:	:	:	:

If you felt that ITV was of no value in training airline pilots, you would check the space closest to the left end of the scale, which represents a low score of 1. If ITV had maximal value for this purpose you would check the space at the right end of the scale. Otherwise you would check a point between these two to indicate how relatively valuable or non-valuable ITV was in this context. Any comments you have which go beyond the rating scale are welcome and should be written on a piece of paper and attached to the questionnaire.

In the blank in the left of each item, please enter the approximate number of times you have actually used ITV or seen it used for the purpose specified in that item.

The basic question for each of the following items is as follows:

How valuable or useful has ITV been or could it be:

___ 1. As a basis for administrative evaluation of teacher performance?

not at all valuable							extremely valuable
:	:	:	:	:	:	:	:

___ 2. As a medium through which administrators can make suggestions relating to the improvement of teaching by individual teachers?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 3. In providing for the administrator evidence of teacher-developed innovations?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 4. In helping the teacher identify for the administrator specific classroom problems?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 5. In helping the administrator to identify classroom problems requiring administrative attention?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 6. As a basis for improving relationships between the school system and parents (who, for example, may see their own child in a classroom setting on ITV)?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 7. In improving administrator-teacher relationships?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 8. As a basis for curriculum expansion and innovation?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 9. In providing a means of sharing taped enrichment programs across multiple classrooms?

not at all valuable :___:___:___:___:___:___:___: extremely valuable

___ 10. As a basis for improved communication between the central school administration and the individual school?

not at all valuable	:	:	:	:	:	:	:	extremely valuable

THANK YOU FOR YOUR COOPERATION!

APPENDIX E

ITV AND MICRO-TEACHING WORKSHOP QUESTIONNAIRE

ITV AND MICRO-TEACHING WORKSHOP INVENTORY

NAME _____ DATE _____

SCHOOL _____

NATURE OR TITLE OF WORKSHOP _____

PRINCIPAL SPEAKER OR LEADER _____

TITLE _____

Have you been previously trained in the use of ITV? _____

Have you been previously trained in the use of Micro-teaching? ____

How many previous ITV/Micro-teaching workshops, if any, have you participated in? _____

As a participant in the ITV/Micro-teaching workshop, you are qualified to help us determine possible ways of improving the training process, as well as to reach decisions concerning the continued and expanded use of ITV and Micro-teaching techniques in the D. C. School system.

INSTRUCTIONS. Most of the items below ask you to complete a series of 7-point rating scales to evaluate the specific aspects of the workshop in which you have participated. For each of these items, simply check the point on the scale which represents your opinion of the workshop relevant to that particular item. EXAMPLE:

To what extent was the principal topic of the workshop appropriate for presentation to a group of teachers?

extremely inappropriate :___:___:___:___:___:___:___: extremely appropriate

If you felt that the workshop was extremely inappropriate for a teacher group, you would check the space closest to the left end of the scale. If the workshop was maximally appropriate for your group, you would check the space at the right end of the scale. Otherwise you would check a point between these two extremes to indicate how relatively appropriate, or inappropriate the workshop was. Any comments you have which go beyond the rating scale are welcome and should be written on a sheet of paper and attached to the questionnaire.

1. How clear and understandable was the workshop presentation?

very unclear : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very clear

2. Did the workshop leader hold your interest?

almost not at all : ___ : ___ : ___ : ___ : ___ : ___ : ___ : almost entirely

3. Overall evaluation of the leader's presentation:

very poor : ___ : ___ : ___ : ___ : ___ : ___ : ___ : excellent

4. Would you describe the "atmosphere" of the workshop as:

highly informal : ___ : ___ : ___ : ___ : ___ : ___ : ___ : highly formal

5. How actively did you personally participate (e.g. raising or discussing points with the leader or group as a whole, etc.)?

almost not at all : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very actively

6. During the workshop, how much did you interact with other participants in individual or small group conversations?

almost no interaction : ___ : ___ : ___ : ___ : ___ : ___ : ___ : almost constant interaction

7. How relevant, in general, were these conversations to the workshop topic?

entirely irrelevant : ___ : ___ : ___ : ___ : ___ : ___ : ___ : entirely relevant

8. How effective was the workshop as a learning experience for attending experienced teachers?

very ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very effective

9. As a learning experience for you personally?

very ineffective : ___ : ___ : ___ : ___ : ___ : ___ : ___ : very effective

10. What is your overall opinion of the value of this workshop?

very ineffective :___:___:___:___:___:___:___: very effective

11. How well was the presentation organized?

very disorganized :___:___:___:___:___:___:___: very organized

12. How well did the leader appear to be prepared?

very unprepared :___:___:___:___:___:___:___: very well prepared

13. Degree of leader's expertise in topic apparent from his presentation (insofar as possible, disregard other knowledge of his qualifications).

virtually no expertise :___:___:___:___:___:___:___: outstanding expertise

14. Having completed the workshop, how familiar do you now feel you are with the setup and operation of the ITV equipment?

very unfamiliar :___:___:___:___:___:___:___: very familiar

15. To what extent do you now feel you are aware of the possible uses of ITV in the D. C. School system?

very unaware :___:___:___:___:___:___:___: very aware

16. How interested are you now in making personal use of the Micro-teaching concept?

not at all interested :___:___:___:___:___:___:___: extremely interested

17. How interested are you now in making use of ITV for purposes other than or in addition to Micro-teaching?

not at all interested :___:___:___:___:___:___:___: extremely interested

18. To what extent do you <u>specifically intend</u> to become involved in some aspect of the Micro-teaching process?

definitely no involvement :___:___:___:___:___:___:___: definitely involved

19. To what extent do you specifically intend to make use of ITV for purposes other than or in addition to Micro-teaching?

definitely will not use :___:___:___:___:___:___:___:definitely will use

20. Which of the following statements best describes your perceived ability to now use ITV equipment:

___ Can now use ITV equipment independently.

___ Would need advice on a few minor points to make use of the equipment.

___ Would probably need quite a bit of advice and help in using the equipment.

___ Would definitely require considerable advice and help to use this equipment.

___ Would not be able to use the equipment without further direct training.

THANK YOU FOR YOUR COOPERATION!

APPENDIX F

CONSULTANT OBSERVATION QUESTIONNAIRE

CONSULTANT OBSERVATION INVENTORY

1. How well was the presentation organized?

very disorganized :___:___:___:___:___:___:___: very organized

2. How clear and understandable was the presentation?

very unclear :___:___:___:___:___:___:___: very clear

3. How well did the leader appear to be prepared?

very unprepared :___:___:___:___:___:___:___. very well prepared

4. Did the leader appear to hold the interest of participants?

Almost not at all :___:___:___:___:___:___:___: almost entirely

5. Degree of leader's expertise in topic <u>apparent from his presentation</u> (insofar as possible, disregard other knowledge of his qualifications).

virtually no expertise :___:___:___:___:___:___:___: outstanding expertise

6. Overall evaluation of leader's presentation:

poor :___:___:___:___:___:___:___: superior

7. Attitudes of participant group toward leader:

very negative :___:___:___:___:___:___:___: very positive

<u>Group Interaction and Participation</u>

8. Was group participation (as opposed to a lecture format) in the workshop generally encouraged or discouraged?

strongly discouraged :___:___:___:___:___:___:___: strongly encouraged

9. Would you describe the "atmosphere" as

highly informal	:	:	:	:	:	:	:	highly formal

10. How actively did the group as a whole participate in the workshop?

very inactively	:	:	:	:	:	:	:	very actively

11. What proportion of the group participated actively?

almost none	:	:	:	:	:	:	:	almost all

12. How much interaction occured among participants?

no interaction	:	:	:	:	:	:	:	constant interaction

13. Relevance of interaction to discussion topic(s)

entirely irrelevant	:	:	:	:	:	:	:	entirely relevant

14. Was the interaction primarily

very hostile	:	:	:	:	:	:	:	very friendly

15. How helpful, for the most part, was the interaction in enhancing the educational value of the workshop?

not at all helpful	:	:	:	:	:	:	:	extremely helpful

16. From your observations, what appeared to be the most prevalent attitude of teachers toward the workshop as a whole?

very negative	:	:	:	:	:	:	:	very positive

17. How effective was the workshop as a learning experience for attending experienced teachers?

very ineffective	:	:	:	:	:	:	:	very effective

18. What is your overall opinion of the value of this workshop?

very ineffective :___:___:___:___:___:___:___: very effective

19. Having completed the workshop, how familiar do you now feel participants were with the setup and operation of the ITV equipment?

very unfamiliar :___:___:___:___:___:___:___: very familiar

20. To what extent do you now feel they were aware of the possible uses of ITV in the D. C. School System?

very unaware :___:___:___:___:___:___:___: very aware

21. How efficient is the workshop as you observed it as a method of preparing teachers for the use of ITV?

extremely inefficient :___:___:___:___:___:___:___: extremely efficient

22. Is the workshop format used by the ITV program the most effective way to train personnel in the use of equipment and/or in micro-teaching? If not, please make alternative suggestions.

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